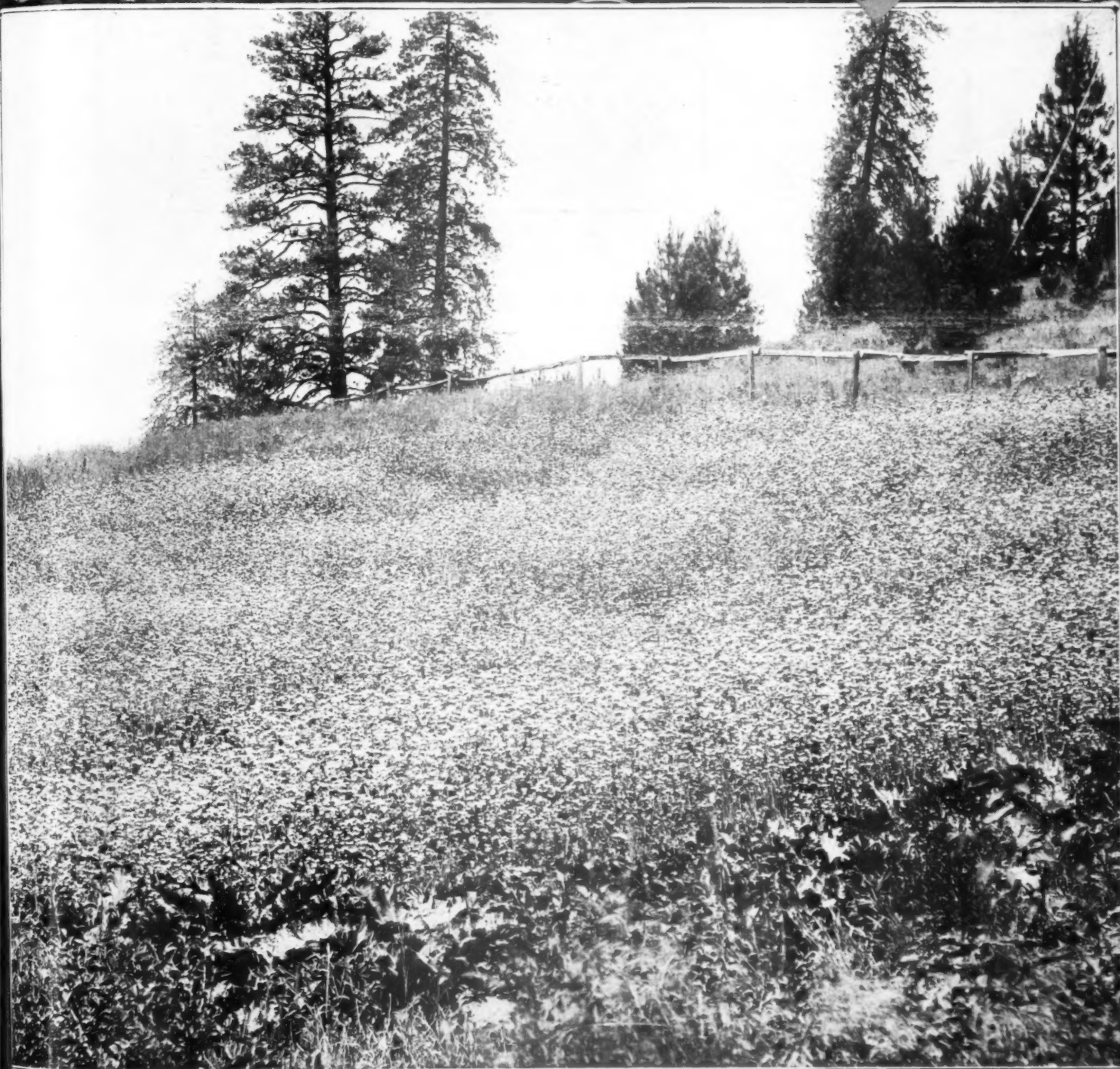


AMERICAN BEE JOURNAL

SEPTEMBER

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13



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American Bee Journal

A Muth Bee-Veil for 65c

I have several dozens of the Muth wire-and-cloth Bee-Veils—a dandy veil—which I will mail for 65 cents each. Order quick if you want one before all are gone.

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This is a 50-cent book which I will mail for 30 cents so long as they last.

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The \$1.00 postpaid size I will mail for only 80 cents. It's a fine bee-smoker. Order at once if you want one.

Honey as a Health Food

Till further notice, I will fill orders for "Honey as a Health Food"—the great honey-selling booklet—at the following prices:

Sample copy free; 10 copies 20 cents; 50 copies 75 cents; 100 copies, \$1.00; 250 copies for \$2.00; 500 copies for \$3.75; or 1000 copies for \$7.00.

These are all postpaid or express prepaid prices. The time to sell the honey crop will soon be here again. It is a fine thing to have a good supply of the above booklets on hand, ready for distribution among those you would like to secure as customers.

Your Name and Address on a Rubber Stamp

It is a nice thing to have a rubber stamp with your name and address. You can then stamp the letters you write, or the envelopes you use, or anything at the bottom of the booklets, "Honey as a Health Food," for stamping your name and address.

I can furnish you a Rubber Stamp, with your name and address, at the following prices, postpaid, the stamp being 2½ inches long:

One Line Stamp.....30 cents
Two " ".....45 "
Ink Pad (2½x3¼ inches)..15 "

All orders will have prompt and careful attention. Address,

GEORGE W. YORK

Sandpoint, Idaho

Untested ITALIAN QUEEN-BEES

OUR STANDARD-BRED

6 Queens for \$4.50;
3 for \$2.75; 1 for \$1.00

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens purely mated, and all right in every respected. Here is what a few of those who received our Queens have to say about them.

AMERICAN BEE JOURNAL—

Gentlemen:—Last October I purchased three queens of you for my experiments with different queens, and wish to ask you if queens of this season will be of this stock? One of the Queens is the most remarkable queen I ever owned for prolificness, which she transmits to all her daughters.

Riddle, Oreg., July 4, 1912.

L. W. WELLS.

AMERICAN BEE JOURNAL—

Gentlemen:—The queen you sent me came in good condition. She was one of the best I have ever bought. I have her introduced and she is doing business as if to the manor born. I want another of those beautiful queens as soon as I can possibly get it for making up my fair exhibit. Please send a fine one. Such queens certainly advertise your business.

Darlington, Wis., July 31, 1912.

C. R. BRIDGMAN.

AMERICAN BEE JOURNAL—

Gentlemen:—I bought a queen of you about 35 years ago, and from her I Italianized 150 colonies of the finest beauties of unusual good qualities. I lived near Milton Center, Ohio, at the time.

Yours truly,
Portales, New Mexico, July 10, 1912.

J. W. HOUTZ.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is \$1.00, or with the old American Bee Journal for one year, both for \$1.60. Three Queens (without Bee Journal) would be \$2.75, or six for \$4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-bred Queens.

American Bee Journal, Hamilton, Illinois.

SPECIAL PRICES

Honey packages and bottles either round or octagon, with American Metal Screw Can.

Per case of 24, 12-oz. bottles.....60
Per case of 24, 6-oz. bottles.....40

We are closing out our stock, and the above prices will hold good only while the stock lasts.

We will ship from Detroit, Mich., or Minneapolis.

Basswood Shipping Cases

One-piece cover and bottom, complete with 2-inch glass, paper, nails, corrugated paper, or no-drip strips in the bottom. Prices, f. o. b. Minneapolis.

25 cases, holding 24 sections, K. D.....\$ 4.00
50 cases, holding 21 sections, K. D.....7.50
100 cases, holding 24 sections, K. D.....14.00

5-Gallon Square Tin Cans

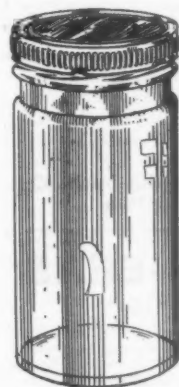
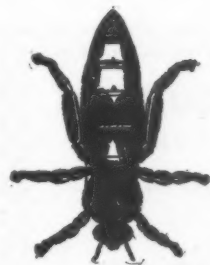
1½-inch screw cap opening, 10 boxes, 2 cans in a box.....\$7.50
1½-inch screw cap opening, 10 boxes, 1 can in a box.....4.50

Friction-Top Cans, F. O. B. Chicago

10-lb., with bail, per 100.....\$6.50
5-lb., with bail, per 100.....4.75
5-lb., with bail, per 200.....9.00

Minnesota Bee-Supply Co.,

Minneapolis Minnesota



Honey Packages

There is a demand for Friction-top Cans and Pails packed in dozen and half dozen re-shipping cases. We have prepared to take care of this demand at the following prices, f. o. b. Hamilton, or Keokuk, Iowa:

Cases containing 6-10 pound pails, per case	In lots of 10,	In lots of 100
" " 6-5 " " " "	75c	70c
" " 6-5 " " " "	45c	40c
" " 12-5 " " " "	62c	58c

F. O. B. Hamilton, or Keokuk, Iowa.

10 pound pails in crates of 100	100 or more.	500 or more
5 " " " "	\$7.25	\$6.75
	5.50	5.00

F. O. B. Hamilton, or Keokuk, Iowa.

60 pound square cans, two per case	In lots of 10.	In lots of 100
60 " " " one	80c	65c
	48c	40c

F. O. B. Hamilton, or Keokuk, Iowa.

Cans Also Furnished To Dealers.

Big Stock—Immediate shipment on receipt of orders

DADANT & SONS,

Hamilton, Illinois



GOLDEN ADEL QUEENS AND BEES BY THE CAR LOAD

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CHARLES MONDENG,

145 to 160 Newton Ave. N.
MINNEAPOLIS, MINN.

Early (FROFALCON) Queens "ITALIANS"

Untested Queens to June 1st \$1.00 each. After June 1, 00c each. Special prices in large quantities. A 5-pound bucket of Orange Blossom Honey delivered at your door by express for \$1.10.

JOHN C. FROHLIGER,
1642 Milvia Street, Berkeley, Calif.
Greater San Francisco, Calif.

Falcon Bee-Supplies, etc.
Please mention Am. Bee Journal when writing.

IF YOU are having trouble trying to live by eating by eyesight, send for my circulars and receive a slice of eating by brainsight.

C. W. DAYTON, Owensmouth, Cal.
The Ripe Honey Man

SHAW QUEENS

By return mail

Three-band Italians. What need say more? Every one knows them. Tested, \$1.00 each. Untested, 75c single queen; \$7.00 per dozen. No disease, and satisfaction guaranteed.

J. W. K. SHAW & CO.,
Loreauville - - Louisiana

CO-OPERATION means buying right and selling right. We are a co-operative association, and sell the best Bee-Supplies obtainable at the right prices. It will pay Western Bee-Keepers to send for our Illustrated Catalog.

Colorado Honey-Producers' Association
Denver, Colorado

Dr. Peiro will continue to give the readers of the American Bee Journal free advice regarding the subject of SURGICAL and MEDICAL treatment. Many have availed themselves of this offer. Return postage is all you need to send. Address, **DR. PEIRO, 4536 Perry Street, Chicago, Ill.**

FRICTION - TOP PAILS

For
Honey
Syrups
Sorghum
Etc., Etc.

GILLE MFG. CO.,
Dept. S.,
Kansas City, Mo.



Try My Famous Queens From Improved Stock.

The best that money can buy; not inclined to swarm, and as for honey gatherers they have few equals.

3-Band, Golden, 5-Band and Carniolan

bred in separate yards, ready March 20. Untested, one, \$1; six, \$5; 12, \$9; 25, \$17.50; 50, \$34; 100, \$65. Tested, one, \$1.50; six, \$8; 12, \$15. Breeders of either strain, \$5. Nuclei with untested queen, one-frame, \$2.50; six one-frame, \$15; two-frame \$3.50; six two-frame \$20.40; nuclei with tested queen, one-frame, \$3.00; six one-frame, \$17.40; two-frame, \$4; six two-frame \$23.40. Our Queens and Drones are all reared from the best select queens, which should be so with drones as well as queens. No disease of any kind in this country. Safe arrival, satisfaction, and prompt service guaranteed.

D. E. BROTHERS, Attalla, Ala.

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ARTISTS
ENGRAVERS-ELECTROTYPERS
542-550 S. DEARBORN ST.
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(Entered as second-class matter at the Post-Office at Hamilton, Ill., under Act of March 3, 1879.)

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C. P. DADANT, Editor.
DR. C. C. MILLER, Associate Editor.

HAMILTON, ILL., SEPTEMBER, 1913

Vol. LIII.—No. 9

EDITORIAL COMMENTS

Some Comments on the August Number

WAX-WORMS IN COMBS.

By way of postscript to remarks on page 258, I may say that years ago I made a practise of sulphuring my sections within a few days after taking them from the hives. That would kill all the little larvae of the wax-moth that were present; but it would have no effect upon the eggs. These would hatch out, and then some 2 or 3 weeks after the sections were taken off I would sulphur again. If I did not thus fumigate the sections, the little bits of worms would soon grow into big fellows that would get the cap-pings off the sections, making a repulsive sight with their ugly webs. After some years the trouble ceased, and now for years I never think of fumigating at all. The reason is that Italian blood has been introduced, and Italians seem to be able to keep the moths from laying eggs in sections while on the hive, but blacks allow the moths that privilege.

It is a common thing to warn against allowing bits of comb to be left lying around as breeding places for moths. I don't want to encourage slovenliness, but the fact is that in this locality not one time in a hundred will pieces of comb lying around become wormy. A hive of combs left by a colony which died in winter in the cellar will, if left undisturbed, become wormy, as mentioned, and it will be only a question of time when

there will be in the hive only a mass of webs. But if a hive filled with frames has stood out doors all winter, it may stand out all the next summer, and will rarely become wormy. That means, of course, that rarely will new eggs be laid in it, for the freezing of winter kills worms and eggs. And this immunity from the moth is true even if the combs are spaced no wider than when occupied by bees. Farther south it may be another story.

ALWAYS SAY WHETHER COMB OR EXTRACTED HONEY.

In that interesting letter on page 258 we are told that from 60 colonies 8000 pounds of white honey were harvested. If that means extracted honey, it's one thing; if it means comb, it's quite another thing; in the latter case being something like 50 per cent more than in the former. In this case it is not as bad as usual, for in Europe extracted honey is the usual, so one is pretty safe in guessing that extracted honey is meant. But too frequently it happens that a bee-keeper of this country reports in that blind way, and leaves us guessing which kind of honey is meant, and there is nothing to guide us in our guessing.

I said the yield was 8000 pounds from 60 colonies. Maybe that's right, and maybe not; for "he has 60 colonies" now, and we are left to guess how many he had when he got the 8000 pounds in 1911.

Let me plead that those who make

reports always observe two things: Be sure to say whether the yield is comb or extracted, and also from how many colonies spring count it was taken.

ANOTHER PRECAUTION ABOUT ROBBING.

When there is any danger of robbing, look out about making changes in appearance. In other words, don't offer any new opportunity for robbing. A weak colony may be standing in its place in the apiary during a yield of honey without being at all disturbed by robbers; but let a dearth come, and it is not so safe. But if it be moved to a new place after a dearth has come, the chances are ten times as great that the robbers will pounce upon it. Let a fresh crack, crevice, or opening of any kind be made in a hive during a time of dearth, and robbers will be sure to investigate it, whereas if the same opening had been made when robbers were not bad and left during dearth, the robbers might not give it any attention.

MOVING THAT MOTHER COLONY.

I am moved with compassion for the beginner who tries to understand that passage on page 277, in the middle of the first column, where instruction is given as to how to prevent afterswarms. Here is the passage: "When the prime swarm issues, put it on the old stand with the mother close beside it. Then a week or so later move the mother close beside it. Then a week or so later move the mother to a new stand." The much-moved mother will be more comfortable and the result will be better if that second sentence be cut out entirely. Then the passage will read: "When the prime swarm issues, put

American Bee Journal

it on the old stand with the mother close beside it. Then a week or so later move the mother to a new stand."

THAT INDIGESTIBLE BEESWAX.

In the interesting article by C. F. Greening, page 274, the second paragraph is likely to excite unusual attention. He gives three points in his method. One is a bit puzzled to understand just what is meant in his first point, where he says: "First, teach your customers that they are getting more sweet by eating extracted." If it were not for his third point, one would understand that to mean that one gets more honey for one's money when buying extracted honey than when buying comb. But that can hardly be the meaning, for that's his third point, where he says, "Again, the customer gets 25 per cent more weight of clear honey for a dollar than he would comb." His first and third points would hardly be identical, so the first must mean something else. Does it mean that extracted honey is sweeter than comb honey? that he can eat more extracted honey than comb? or what does it mean?

The claim that more honey can be had for the money by buying it in the extracted form is a legitimate one, and worth pushing, and it seems Mr. Greening might make the claim a little stronger than he does. It is true that there are some who sell extracted honey at the same price as comb, but they are few. Much more commonly it is the case that where a customer pays 25 cents for a section of honey he can buy a 5 pound can of honey at 15 cents a pound. If the net weight of the honey in the can is 5 pounds, then he buys at the rate of 6 2-3 pounds of honey for a dollar. That section for which 25 cents was paid does not weigh as much as a pound — perhaps 14½ ounces — and when the weight of the wood and wax is deducted the clear honey may weigh 13 ounces. So the 4 sections he gets for a dollar net him 52 ounces of honey, or 3¼ pounds. Comparing that with the 6 2-3 pounds he gets in the extracted form, it will be seen that instead of getting 25 per cent more, as claimed, he gets a trifle more than 100 per cent more. You can change these figures to suit local conditions, friend Greening, but please don't be so modest as to claim only 25 per cent more clear honey for a dollar.

But the second point is the one that is most striking. "Second, who would ask his stomach to digest that



THE BIRTHPLACE OF CHARLES DADANT, MODERNIZED. HE WAS BORN MAY 22, 1817.

which raw muriatic acid won't affect? No wonder we are troubled with stomach disorders when we demand it to digest beeswax." One can imagine a customer to whom that is said replying, "Is that so? I've always liked comb honey best; but if the wax in it is so utterly indigestible I'll never eat any more comb honey." The fact is that most people are very ignorant about what goes on in the digestive tract, and do not know as much about the matter as the farmer does about what his cattle need. He knows that he must furnish his cattle a considerable amount of coarse feed containing indigestible materials for the sake of the bulk and to aid the peristaltic motion of the bowels.

If friend Greening allows to enter his stomach only that which can be thoroughly digested and assimilated, he is not very long for this world. Many are beginning to learn that to be healed of constipation, with all the ills that follow in its train, they must give up eating bread made of the finer parts of the wheat, and go back to the whole-wheat flour or bran bread containing the indigestible parts of the grain. Some think that the wax in comb honey has a beneficent effect, but this is perhaps the first time it was ever claimed that we are troubled with stomach disorders because of the indigestibility of beeswax. The probability is that the wax does not have any great effect on the stomach or bowels. As it is not affected by the acids of the stomach, whatever effect it does have must be mechanical, and so beneficial.

Harp all you like upon the cheapness of extracted honey as compared

with comb, but please don't try to sell extracted by preaching that comb honey is unwholesome.

The Editor Abroad

During our few days of stay in Paris, I visited the office of L'Apiculture, and was very courteously welcomed by the manager, Mr. D'Autemarche. The July number of the above named magazine contained another excellent commendation of the *sting cure* for rheumatism. A Mr. Lefèvre, age 32, who was suffering of acute rheumatism, with swelling of the joints of the arms, was entirely cured after five days' treatment.

I have also met Mr. Alin Caillas, the honey analyst, a graduate of the National School of Agriculture of Grignon, who is the author of a number of articles on honey, and of a little publication entitled, "Les trésors d'une goutte de miel" (The Treasures in a Drop of Honey). He and his father, who was Secretary of the International Congress in 1900, are located near the Bois de Boulogne, in a delightful spot. We were received in the laboratory.

Mr. Caillas believes that the May disease is nothing but constipation, which has become a contagion. Two of his friends have had it among their bees, and he promised to request them to send samples, at the first opportunity, to Dr. White, of Washington, for examination. A united effort, on both sides of the ocean, ought to result finally in a diagnosis, which will lead to methods of prevention and cure. Dr. White did not find the nosema apis in the samples we sent him the past spring, and we are inclined to believe that this parasite is a result, and not a cause, of the May disease.

In some of the avenues of Paris, I saw the "tilleul argenté," silver-leaf linden, in full bloom. This, I am told, yields a green-colored honey, which must be somewhat similar in shade to our sweet-clover honey.

A VISIT TO GRANDPRÉ.

Grandpré, the birthplace of my wife's mother, is a splendid spot for bee-cul-

American Bee Journal

ture. Here I visited a bee-keeper who keeps both straw-skeps and movable-frame hives of the Dadant pattern. Strange to say, although he considers the frame hive as much superior, from its greater capacity and the manipulations it permits, yet like most other European apiarists, he thinks best to keep straw-skeps to furnish increase. His movable-frame colonies swarm but very little, for they have all the room they can fill in large extracting supers. In spring, empty combs are placed in the middle of the brood-chamber to increase the laying of the queen by furnishing her a surplus of empty cells.

This gentleman is also a "cjrrier," that is to say he is a manufacturer of wax candles. He buys the old combs from bee-keepers and renders them. He bleaches the wax and makes candles, very fine ones, with all sorts of wax ornaments, fringes, etc., shaped by the use of pincers while the wax is malleable. His honey is sold in pails, from one kilo (2.2 pounds) up to 10. The pails are friction top, like ours. These are used everywhere.

Although we are anxious to reach Switzerland and Italy as soon as possible, we still have to visit a number of French spots. France and Switzerland are having a very damp and cool summer. It has been cloudy every day, and it rains often. But the roads and byways are so exceedingly fine that we rarely dampen more than the sole of our shoes. In spite of the very cool weather, considerable honey is harvested. I see many bees on white clover. They are all the common bee. We have not found any foul brood. But we have heard of the May disease, which is described exactly as the Isle of Wight disease.

JOURNEYING TOWARDS SWITZERLAND.

We are slowly wending our way among friends and bee-keepers towards Switzerland and Italy. For the past week we have visited the old haunts of Burgundy, the greatest grape growing districts of Europe. The apiaries are located either in the golden hills above the vineyards, or in the plains where the sainfoin grows. There is white clover in profusion in every pasture, and it is in full bloom; nevertheless the bees are chasing their drones. But in almost every apiary there is a fair crop in the supers. We have found only one apiarist, Mr. Rapinat, who raises honey in sections; everybody else uses either our extracting supers or what they call the horizontal hive, a movable-frame hive containing from 20 to 30 brood-frames, 13x14 or thereabout. The entire crop is thus harvested from the hive-body, no supers. In this instance, the bees are kept on the house roof, in the heart of the city of Chalon.

This Mr. Rapinat has a system of Miller super of his own. Instead of a T he uses a strong, smooth strip of steel, rigid enough to support the sections at each end without bending. He will supply us with a photograph of it. He has very fine honey. They are trying the Italians for the first time. They hesitate in buying them because of the large number of common bees scat-



In Mr. Champion's Park—the Experimental Apiary, with five different systems on trial, Dadant, DeLayens, Voirnot, Cowan, and Cylindrical hives.

tered in the villages and hamlets, which will cause mismating.

Thus far, however, I have not heard any criticism of the Italians. Every one seems to acknowledge their superiority if they can be kept pure and peaceable. This latter virtue is of importance in so thickly settled a country.

GERGY.

Before arriving here, where we were welcomed by Mr. E. Champion, whose guests we are, we visited Dijon, and saw there the ancient place of the dukes of Burgundy, containing the marble sculptured tomb of Jean Sans Peur, of the 15th century, a most delicate piece of architecture which baffles description. The palace is now the Hotel de ville museum (city hall).

The past two days we visited, in company with 8 or 10 bee-keepers, two fine castles, with apiaries in each adjoining park. The last visited, that of Darcy, contains in its cellars, as well as in its old armory, tens of thousands of gal-

lons of both champagne and Burgundy wines. It seems strange to one accustomed to the prohibition ideas of some of our American cities to see wine served on every table. He who would want to eat his meals in a total abstinence hotel, would have to go hungry. It is but just to say that the French wines, slightly mixed with water, make a very safe and palatable drink on account of the very small proportion of alcohol they contain.

In the apiary of Mr. Séger, at Beaune, I saw a feeder made of two wooden troughs, rounded on the inside, instead of the perpendicular walls of our Miller feeder. The inventor says that the bees get into this feeder and climb out again more easily on account of the slanting inner walls. There is some truth in the argument.

Our host, Mr. Champion, is a retired business man, who spends his time among his bees, or in watching his crops, fishing in the Saône, or hunting

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THE HOME OF MR. CHAMPION, IN GERGY, FRANCE, WHERE MR. AND MRS. DADANT VISITED THE LAST OF JULY.

hares and wild boars in the neighboring forest. He is now president of the Société Bourguignonne d'Apiculture, and editor of its Bulletin. It was not my intention to stop here, but his invitation was so pressing, so hearty, that we could not refuse, and we have no cause to regret it. We were promised a quiet bed-room, and all the rest we could wish to prepare for further travel. We have found it, and hereby extend our most hearty thanks to our kind host and his wife. He has given me some fine photographs which will be reproduced later.

We have been made welcome everywhere. We have visited the homes of our forefathers, found their tombstones, and met distant cousins, who remembered faintly that some of the family had gone to America over half a century ago. They were highly pleased to see us. They were shown pictures of our great Mississippi, of our big dam. They asked numerous questions about the language, the customs of our States, as well as about the bees. But they wondered how we could make up our minds to come so far, for most of them never leave their immediate vicinity, and a trip to Paris, 200 miles away, seems to them a wonderful excursion.

However, there is a great change coming, for the automobiles, the electric lights, the trolleys are finding their way to the most remote villages. Castles, which 300 years ago resounded with battle-ax, swords and steel ar-

mors, are now supplied with telephones and electricity. The armory of the castle of Dracy, as well as its upper rooms, is lighted with Tungsten lamps, and its gentlemanly owner, who received us with the greatest politeness and urbanity, spoke English as well as French, and had made a visit to America, of which he spoke with great pride.

The weather is now fine, the rains have stopped, and the wheat harvest is on. Fruit is lacking, on account of late frosts last spring. But the grapes are good wherever they have managed to avoid the mildew by the use of the Bordeaux mixture. This is a rich and beautiful country.

ALBERTVILLE, IN SAVOY.

I have just visited one of the most carefully kept apiaries of France, that of Mr. Mont-Jovet, of Albertville, in Savoy. This part of France was once considered abroad as a poor country, devoid of fertility. The stories and songs concerning the little chimney-sweeps, accompanied by "marmots," who roamed all over France to earn an honest but arduous living by displaying their tamed friend and cleaning chimneys, are nothing but folk-lore and prejudice without foundation in modern civilization.

No one understands better than does Mr. Mont-Jovet the advantage of advertising. Before reaching his home, I had read in the Guide of

the French Touring Club, that Albertville was renowned for its honey. At breakfast, the hotel waiter brought us each a little round box, holding a tenth of a pound of fine granulated honey. This was marked "Miel De Savoie," with the name of Mont-Jovet as producer. This is furnished by him to the hotels all through that country at \$2.50 per hundred. As the boxes cost 70 cents per hundred, it leaves 18 cents per pound for the honey. Of course, it is some trouble to put it up and to sell it, but think of the advertising it does, silently, among the consumers.

The honey of Savoy, under the denomination of "Miel de Chamonise," has a great reputation. It is mainly composed of sainfoin nectar, with a number of mountain plants, alfalfa, locust, linden, etc. Our friend, who has five or six apiaries scattered among the hills, asserts that the honey produced at high altitudes, though more difficult of production, is of better flavor than that of the plains. It is noticeable that the plains surrounding the Alps are but little above the sea, while in the United States the plains west to the Rocky Mountains are already quite high. Thus Denver, at the foot of the Rockies, is at over 5000 feet, which is reached by slow ascent in the 800 miles of slope from the Mississippi. So the hillsides of Savoy, and of Switzerland as well, have all sorts of altitudes, from less than a thousand

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THE PARK BEHIND THE CHAMPION HOME.

feet at the plain up to several thousand.

The coolness of the climate makes desirable, in cool spring or fall weather, the confinement method, recommended some years ago by Mr. Gouttefangeas, which consists in furnishing the bees good ventilation without light. This method, which in a country of sudden warm days like ours, would prove disastrous in any spot except a cellar, has

been quite satisfactory. Mr. Mont-Jovet has kept a colony in fine condition for 80 consecutive days, during December, January and February, while other colonies lost many bees from flight in chilly weather.

In addition to keeping bees in large numbers, our friend was naturally drawn to the trying of new races. His proximity to Italy made it easy to im-

port bees from there. Lately he has tried the Carniolans and the Caucasians. He prefers the Italians and the Caucasians to the others, the Carniolans swarming too freely.

I saw in his apiary a freshly received Caucasian queen which produces fine bees. They have a very slight tinge of yellow on the edge of the abdominal rings. They are large and very peaceable. They behave on the combs exactly like the pure Italians.

We are now at Geneva, a beautiful spot, full of tourists, which appears to me the cleanest city that I have ever visited. We are going to buy a "subscription" (they call it "abonnement") to the Swiss railroads, for a month. This costs 100 francs, \$20, and enables one to travel all over the country on nearly all the railroad lines and most of the lakes, without further transportation expense. We expect to visit many apiaries. Have already visited several dozen apiaries in France. The Dadant hive is in use even more than we supposed, all through Europe, and it is a pleasure to be introduced to beekeepers wherever we go, for they are very demonstrative, and often seem inclined to hug us with delight.

We have had a number of rainy days, but the sky is clear now and the weather warm. But the bees were robbing and chasing their drones, at the last apiary that we saw.

The roads are delightful. But the carriages are too heavy for any use,



CASTLE OF DRACY.

The ruined tower on the right hand dates back to the 12th century. Here is produced very fine sainfoin honey. Alfalfa, white clover, and the silver-leaf linden are also good yielders. The linden blooms two weeks later than the other kinds.

American Bee Journal

The automobile is the thing for Europe. It is a pleasure to ride in it.

C. P. DADANT.

Gergy, July 27, 1903.

Competition

In Europe as in the United States, we meet bee-keepers who are afraid of the competition of others, who consider men in the same line as enemies. We see dealers in supplies who think they must fight other dealers, who consider as a traitor the man who buys imported goods. It seems strange to us. Of course these ideas are not the rule, but we caused great astonishment in some quarters by visiting manufacturers and dealers in comb foundation in a friendly way. Yet is it not best to be on good terms with everybody? There is room for all under the heavens and life is too short to spend any part of it in strife and ill-will to anyone. There is much to gain and nothing to lose in joining hands with others in the same line.

The world is progressing and nations fraternizing. American Jingoism and French Chauvinism have had their day. Progress condemned them.

The Sense of Direction

How do bees find their way? The Journal of Agriculture, in its Jan. 8 number, has this to say, quoting the Scientific American:

"The directive sense which is possessed by bees is the object of researches made by Mr. Gaston Bonnier, of Paris, and he seems to prove that bees possess a special sense like that of carrier pigeons. Bees can fly for two miles and are then able to return after gathering their supply of honey. Langstroth and others suppose that vision comes into play and that bees can see great distances, and can also note objects on the way so as to find the patch. Others, with Dadant, suppose that the bees are guided by the sense of smell, and that they can smell flowers at 1½ miles."

The author goes on to explain that Bonnier made experiments by carrying bees in a closed box a distance of one or two miles, and that they found their hive when released. He claims that they even can do so when their hives are covered, so that *sight is not essential*.

This matter was discussed in continental bee journals two or three years ago. With all due regard for Mr. Bonnier, whose deep erudition we cannot doubt, for he is the author of a treatise on bees and several works on botany, nectaries, etc., we cannot agree upon the assertion that bees have no

need of eyes to guide themselves to their home. We hold that the experiment made to close their eyes when releasing them a couple of miles from home was at fault in some particular.

That bees in normal condition should find their home when released at a distance of two miles has nothing wonderful in it. The wonder would be that they should fail to do so.

Everybody knows, and Mr. Bonnier himself states in his book, that the bees at their first flight "do not rapidly leave the hive, but circle about with their head generally turned towards the entrance." They thus recognize the spot. If they do this where we can readily see their actions, it is reasonable to suppose that they do the same thing after they have raised themselves out of our sight. They do exactly what we do when we go in a strange place. We take note of the different points by which we may recognize the spot.

As bees are known to go two miles and more away from home (some leading apiarists even assert they may go 8 miles), and as their sole occupation at that age is to fly about in search of honey, pollen, propolis or water, we must expect them to become as familiar with the country around as we are with our own vicinity. Should they be confined and carried away to be released even a mile farther than they have ever gone, it is quite probable that after rising in the air, they will be able to recognize some features of the country in the proper direction.

To throw a doubt on the necessity of the wonderful organs which they possess, to say that their eyes are not capable of sight at long distances, and to suggest some imaginary additional sense, is in our opinion absurd. Even the so-called sense of direction of carrier-pigeons who have two eyes, like us, would probably vanish from our fancy, if we could accompany them in aeroplanes. I dare say that the aviators, after flying about a certain section of country for days, learn to recognize points of direction which would be entirely above the perception of the earth-confined mortals.

If we give a minute's thought to the eyes of bees, we recognize their importance in the bee's life work. Two of these eyes, the most conspicuous organs of the head surface, are composed of facets, which are turned to every direction of the compass. Cheshire, whose microscopic studies have not been disputed, gives the number of facets in the compound eye of a worker at 6300, or 12,600 eyes in a single insect. The studies of Mr. Watson, a photo-

graph taken of some 240 of these facets, mentioned on page 8, January number, show that in every facet there is a reproduction of the things before it, just as in my eye you can see your picture when I look at you. To deny that these eyes can see far away, and that the bees are many times better fitted than we are for piercing sight, is to deny the evidence.

But, as bees are in need of both daylight sight and sight in darkness, with quick changes from one to the other as they go to and from the hive, they are provided with three extra eyes, small, round *ocelli* which evidently serve a different purpose from the compound eyes' function.

Whether we believe in absolute design in Nature, or in evolution and the survival of the fittest, or both, as the explanation of the wonderful structures existing in the world, we must acknowledge that nothing could be better fitted than the eyes of bees for its requirements.

If any one still insists that there is a sense of direction, and that the eyes of bees cannot see either far or distinctly in the air, let me ask them how the drones see the queen on the wing, in the immense space? The drones have still more facets to their compound eye than the workers. Cheshire has counted approximately 13,000 on each side of the head of a drone, or over 26,000 organs of vision in the head of a single insect. Is this not a proof that their eyes are necessary in the search for the queen, at the time of mating?

It may be said that the queen emits a peculiar smell. This is practically proven. But if we are to doubt that bees can smell a field of flowers a mile away, we would certainly also doubt the possibility of a drone smelling the queen a hundred feet away.

If the so-called sense of direction really existed, independent of the eyes, why should the bees be unable to find their home at greater distances than they usually travel? Yet, we all know, who have transported bees, that when carried away 5 or 6 miles, very few if any ever return. The instinct of birds, which induces them to go South in the fall and return in the spring, is an entirely different problem. The warm sun in the South and the cold northern winds are the evident prompters of that instinct.

The question of smell and its influence upon the actions of the bees should be discussed separately.

Prof. Sanders Contradicts

Freedom of the press is a good thing, but Prof. J. G. Sanders, of the Univer-

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sity of Wisconsin, is likely to think there is too much of it. Some reporter quoted him as saying that sugar was poison to bees, and that has not only gone into the papers of this country, but has gone the rounds of European bee-journals.

Prof. Sanders flatly and vigorously denies that he ever made such a statement. Yet there is little likelihood that many of the publications in which the erroneous statement was found will take the trouble to contradict it.

It seems, however, that some of these questions about sugar in connection with bee-keeping are important enough to be taken up by competent investigators—why not our Washington authorities—so that we could know just what the truth is?

There is the question of beet *vs.* cane sugar. For years the British Bee Journal has strenuously insisted that beet sugar should never be used as winter food for bees. We are told that the two kinds of sugar are chemically alike. Yet in the matter of food there may be important differences that the chemist cannot discover. Still, if it be true that 2 pounds of ultramarine blue to every 100,000 pounds of sugar are used for bleaching, and that the molasses left from beet sugar is not edible, as is the New Orleans molasses from cane sugar, but is highly laxative, even in small quantities, on account of the salicylates present, as well as other chemical compounds, the chemist should have no difficulty in differentiating the two sugars. At any rate, we ought to know whether beet sugar is or is not as good as cane for wintering bees, and be done with all uncertainty about it.

But there are other questions about sugar, even though beet be as good as cane. Probably all agree that in regions where unwholesome honey or honey-dew is practically death to the bees in winter, it is much better to replace these unwholesome stores with sugar. But some hold that good sugar is better for winter stores than the best of honey, while others, especially in Europe, hold that good honey is much better for the bees, and that continued sugar-feeding lowers the vitality of the bees. Which are right?

Again, there is no small difference of opinion as to the financial phase of the matter. Some hold that big money is to be made by feeding sugar when it is worth only half as much as honey; others think it does not pay. One of the questions in this communication that calls for a reliable answer is this:

How many pounds of sugar must be fed in order to replace 100 pounds of honey of a given density?

Those who will give us reliable information upon these and other ques-

tions regarding feeding sugar to bees, whether at Washington or elsewhere, will be deserving of hearty thanks from the bee-keeping fraternity.

C. C. M.

MISCELLANEOUS



NEWS ITEMS

Parcel Post Problem Again.—Until the bee-keeper learns to use parcel post intelligently, there will be no small effort made to keep honey out of the list of mailable articles. As long as a person insists on sending stuff without thinking of inconvenience to other people, just so long will there be barriers thrown in the way of extending his trade. Read the article below, copied from the Cincinnati Times of Aug. 8:

Residents of Zion City received, today, the sweetest bunch of letters they ever got. Business communications were just as honey-laden as love notes. The morning's mail, comprising about 1500 letters, was coated with honey when a jar of the sticky sweet, which had been sent by parcel post, broke as the sack was thrown from a mail car. Post-office clerks tried washing the letters with wet sponges, but the honey wouldn't come off.

Honey Gin and Orange.—We have notice from the Department of Agriculture of judgment against Furst Bros., Cincinnati, for the misbranding of food products. They put out a beverage so called Honey Gin and Orange, which they claimed to be absolutely pure. The article was misbranded from the fact that it contained in addition to the three above ingredients a quantity of sugar syrup which was substituted in part for the honey. Misbranding was alleged further for the reason that the product contained 23.40 percent by volume of alcohol, and each of the packages containing the product considered as a drug, failed to bear a statement upon the labels of the quantity or proportion of alcohol so contained.

A plea of guilty was entered by the defendants, and they were fined \$25 with costs of \$15.25. Pity it was not more.

Death of a Prominent Bee-Keeper in Japan.—We have just learned through our good friend, Mr. John C. Frohlinger, of the death of Mr. Jim Sano, proprietor of the Sano apiaries in Japan. Mr. Sano was a young man just entering

into the modern methods of bee-keeping, and was a thorough and capable bee-keeper. He was operating extensively, owning, himself, several hundred colonies of bees which he had improved by the importation of good stock both from this country and from abroad.



MRS. H. S. DUBY, OF ST. ANNE, HIVING A SWARM.

Ontario Honey Report.—We are in receipt of the White Honey Crop Report of the Ontario Bee-Keepers' Association, sent out by its efficient secretary, Mr. Morley Pettit. Of the 1243 members in the association, 543 gave a report of their crops. Mr. Pettit comments that the work of the committee would be much more valuable had the proportion been larger.

The average amount secured per colony was 63 pounds. The total for the whole province will be less than usual, however, owing to the fact that the

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northern and eastern counties got but little surplus, whereas generally they are the best. Some large sales of honey have already taken place in a wholesale way at 11 to 12 cents.

The report gives a complete list of the number of colonies in each county, and the honey produced. Wentworth county has the largest average, with 108 pounds per colony; Kent county, 105 pounds; Welland county, 98 pounds; York county, where Mr. Byer is located, has an average of 92 pounds per colony. The total produced by the senders of the 543 reports is 1,618,489 pounds. Not so bad. Of this, Middlesex county produced 266,500 pounds; Halton county, 137,200 pounds; and York county, 131,200.

Ontario Annual Convention.—The following is a complete program of the Ontario Bee-Keepers' Association convention which is to be held in Toronto during the week of the Horticultural show, Nov. 18 to 21 inclusive:

TUESDAY EVENING, NOV. 18.

7:30—Meeting of officers and directors.

WEDNESDAY MORNING, NOV. 19.

9:30—Minutes—Morley Pettit, Secretary, Guelph.
President's Address—Denis Nolan, Newton Robinson.

1st Vice-President's Reply—J. L. Byer, Mt. Joy.
2d Vice-President's Reply—Miss Ethel Robson, Ilderton.

Co-operative Work in the Counties—Alex Dickson, Lancaster. Secretary Glengarry Association. Blake Miller, Aylmer, Secretary Elgin Association. R. C. Fretz, Forest. Secretary Lambton Association. All other County Secretaries are expected to join in the discussion.

WEDNESDAY AFTERNOON.

2:00—The Office of Director—What Does It Mean?—R. E. L. Harkness, Irena.
The Swarming Problem—H. G. Sibbald, Claude.

Question-Box—D. Donaldson, Carleton Place.

THURSDAY MORNING, NOV. 20.

9:30—Queen-Rearing—John A. McKinnon, St. Eugene.

The Association Organ—H. B. Cowan, Editor of the "Bee-Keeper," Peterboro.
Question-Box—Jas. Armstrong, Cheapside.

THURSDAY AFTERNOON.

2:00—Address—E. R. Root, Medina, Ohio.
Address—Dr. G. C. Creelman, L. L. D., President of Ontario Agricultural College, Guelph.

Election of officers.
Reports—Secretary, Treasurer, Directors, Committees, Representative to Exhibitions, Judges of Honey.

FRIDAY MORNING, NOV. 21.

9:30—The Question of Transportation—Geo. F. Kingsmill, of Ontario Agricultural College, Guelph.
Notes from the Year's Work—Morley Pettit, Provincial Apiarist.
Question-Box—Chas. Blake, Snow Road.

FRIDAY AFTERNOON.

2:00—Comb Honey Production—D. Anguish Lambeth.
Extracted Honey Production—John A. Lunn, Fingal.
Unfinished Business.

Pennsylvania Summer Meeting.—The summer meeting of the Pennsylvania State Bee-Keepers' Association will be held in Geo. M. Steele's yard, West



A MODERN HONEY CONVEYANCE.

Chester, Pa., Sept. 6. The day will be devoted largely to practical demonstrations in up-to-date bee-keeping. Everybody come for a big day.

H. C. KLINGER, Sec.

The Parcel Post.—What seems like the first serious effort of the express companies to destroy the parcel post and to bring back the conditions which were resulting in the excessive profits for themselves, is the effort to have the "Administrative Clause" of the parcel post law stricken out. This would result, of course, in killing the vital force of the law. It would result in the loss of the work of those men who have been fighting for this law for nearly 40 years, and, moreover, it would stop the expansion of this law.

According to newspaper reports there is a movement to expand the parcel post so that parcels up to 100 pounds in weight will be admitted to the mails. The introducer of this would also make the zone system much more simple than it now is. In opposition to this comes the "express gang" who are bent on not being totally destroyed. They count on winning all rather than losing it. It is pretty hard, when a person has been making as high as 1000 percent on the original investment each year, to be satisfied on what the average person makes. So these companies think they cannot be content with what they have.

There is just one way to solve this problem. And that way is for us, the people, to get busy. No use to wait for these companies to make the first move, for they have already made it, even though not in the open where we could see it. Letters and telegrams should go from every one who reads

this to his or her Congressman, Senator, and to the Postmaster General demanding that the law be let alone, and that the service of the parcel post be extended. *Now is the time.* The longer we wait the more tenacious will be the hold by the opposition.

The Benton Cage Modified.—Various ideas for the safe and quick introduction of queens are constantly being advanced. A method of introducing without the use of the cage is frequently used and advised, but for the average bee-keeper a safe, easy plan is needed, and the Benton cage is our stand-by.

A new idea modifying the Benton cage is brought forward by Mr. Arthur Stanley, of Chicago, Ill., and deserves a thorough test. Its extra cost may be worth more than the queens it will save. The cage measures $\frac{7}{8} \times 1 \frac{1}{4} \times 4 \frac{1}{4}$ inches, the extra length making a longer passage-way in the end not usually containing candy. This passage-way is filled with candy, and the perforated metal replaced by heavy paper, thus making this end also an opening for introduction. The important feature of the cage is the single perforated queen-excluder fastened just inside the passage-way. The bees of the hive soon eat their way to the excluder, and pass in and out of the cage one by one, thus getting acquainted little by little with their new queen. The excluder prevents the queen from emerging until she is released in the ordinary way.

No time is saved by this method, but a surer method is apparent. The extra weight of the cage, one ounce, makes an extra expense for mailing.

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As the passage-way will not admit a queen, she must be placed in the cage either before the screen is entirely tacked on or an opening in the side of the cage must be provided.

August Pictures.—We wish to call the attention of our readers again to the series of seven pictures which ap-

peared in our August number. These photographs are especially interesting on account of the fact that they teach a lesson, especially for the beginner.

Mr. G. E. Morris, of South Barre, Vt., who sent us these, is a very thorough bee-keeper. By the system of swarm control, which he practices, very few swarms are lost.

BEE-KEEPING FOR WOMEN

Conducted by Miss EMMA M. WILSON, Marengo, Ill.

How One Woman Prevents Swarming

Miss Mathilde Candler, of Wisconsin, is one of the few women who keeps bees on a large scale, and one of the very few who keeps bees in an out-apiary. She is a thoroughly practical bee-keeper, and is highly successful. Her plan for the prevention of swarming, which she gives in *The Bee-Keepers' Review*, shows an ingenious mind, and if the plan is successful with her, there is no reason why it may not be successful with others. For years she tried to prevent swarming by shake-swarming and other methods, trying every method she saw described in the bee papers. She found none of them quite satisfactory. The plan which she finally perfected she thus gives:

"When I find a colony with queen cells containing eggs or larvae I prepare an empty hive body by putting in a few empty frames with or without foundation starters, and also one or two frames containing a little drawn comb to catch the pollen so that the bees do not carry it up into the sections. I take this to the colony preparing to swarm, remove its supers, and take out a frame (any frame with bees and brood) and place it in the center of the hive body, and replace the removed frame with one having a foundation starter in it.

"On top I lay a piece of wire cloth cut just the size of the top of the hive. Over this screen I set the prepared hive body, letting it project forward a little so the bees coming home can crawl up into it from the outside. Care must be taken so the screen lies close and even on the hive, so that the bees cannot crawl in under the screen.

"Now I put on the supers and cover and close the screen at the back (caused by moving the hive body forward) with a piece of lath. I now close the entrance with a board having three one-inch holes covered with the cone bee-escape. All the bees can get out of the hive, but they cannot get back in, so they crawl up the front of the hive into the hive body set on the screen.

"In four days I take off the prepared hive body and screen, put back the sections and remove the cone escape-board at the entrance. The brood-frame may either be returned after destroying the queen cells on it or used in other ways for strengthening nuclei, etc.

"By this method there is no shaking, no absconding, no hunting for queens or pinching off queen cells, no jumping of hives or chilling of brood. It is not even necessary that the queens be clipped. The method can be applied to any kind of a hive.

"The queen destroys the queen cells, and she does a surer job than the apiarist does. There is no interruption in honey gathering, the bees do not feel themselves queenless, and do not rush around frantically hunting their queen; and when they realize that they are separated from their queen, the swarming fever leaves them.

"Of course it is necessary that the cone bee-escape-board at the entrance fits tight so that no bees can get in. Otherwise this plan will not work. Nor is it necessary to wait four days before changing things back; the queen will have destroyed the cells before that time. But I prefer to wait so long to be on the safe side."

Beauty Value of Honey

"How doth the little busy bee improve the shining hour?" In making honey, of course, for the summer girl, and if she be wise she will heartily appreciate its efforts.

For the building up of the fatty tissue, honey is unequalled, and the maid who sighs for pretty shoulders should eat it morning, noon and night. Buy your honey in the comb, to be sure that it is fresh, strain it and spread it on thick slices of white bread. Try this during your vacation, and hollows will fill out, thin cheeks grow plump, and you will come to see why Mother Goose assured us that "the queen was in the parlor eating bread and honey. Doubtless it was a beauty parlor!"

The fallow girl, or one who suffers from pimples, will find the same

honey diet one of the very best ways of clearing her system and freeing her from constipation, for honey is a natural, beneficial and effective laxative.

Externally honey is just as beneficial as it is internally, as it is softening, whitening and soothing to the skin. If you have any left from your daily diet you can rid yourself of a sunburned neck by the following effective bleach:

HONEY CREAM FOR SUNBURNED NECKS.

Take an ounce of strained honey and stir in four teaspoonfuls of lemon juice. Beat up the white of an egg until it is fluffy, stir in your honey and lemon, then add enough barley meal to make a thin paste. Apply this thickly to the neck at night and wrap a loose cheesecloth bandage about it. Repeat this nightly until the texture of your skin is like velvet and your skin of snowy whiteness.—Chicago Record-Herald.

Helps for a Beginner

Up to three months ago, when I purchased a colony of bees, I had never seen a real bee-hive with bees in it. Bees are doing nicely. I certainly had a time finding the queen but was finally successful and clipped her wings.

Please answer these questions:

1. Of what use is the thick board in the center of the hive body?

2. I haven't an extractor, how can I separate the honey from the combs without one? Please explain this fully.

3. The bees have stored no honey in the super, yet in the hive they have built comb on the different frames and have run three of them together. What must be done to remedy this?

4. When taking the honey, is the super honey all that is taken or is the clear honey without brood taken also from the hive-body?

5. In searching for the queen I took all the frames out, brood-frames included and had them out fully thirty minutes. Was this injurious to the brood? LOUISIANA.

ANSWERS.

1. It is the dummy or division board, but it is not placed in the center of the hive unless one wishes to contract the brood chamber (as in the case of a weak colony or a nucleus) but at one side of the hive, and removed first in order to leave room to easily remove the frames.

2. Cut the comb containing honey into a stone jar, place the jar in a pan of boiling water, and set on the back of the stove, where it will not get over-heated, as that will spoil the flavor of the honey. When it is thoroughly melted remove from the stove. Wax will rise to the top of the jar, and form in a solid cake, which is easily removed, leaving the honey in nice shape. Or if you prefer, you can mash or cut the combs of honey

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and drain through a sieve or cheesecloth bag.

3. You should have had the frames filled with foundation which would oblige the bees to build straight. Either you have had no foundation, or the foundation has come loose. Take out the combs that are built straight so you may have plenty of room to get at the three faulty ones. Now cut away the attachments where the comb has run a little into the wrong frame, push the comb into the proper place in the frame, tie a string around to keep in place, using little wedges of wood if necessary, and turn the middle one of the three frames end for end. Bees do such strange things that it is possible they have built combs straight across on these three frames. In that case there is nothing for it but to cut out the whole thing and begin over again, furnishing at least a guide for the bees to go by. If you have no foundation, cut pieces of the comb—strips an inch wide will do—and fasten them under the top bar, using melted wax for glue.

4. Better leave the honey in the hive body for the bees, giving plenty of super room for the surplus honey.

Nowadays it is not considered the proper thing to put combs from the brood-chamber into the extractor.

5. Not if the weather is warm. But in early spring or in cool weather it will not do to expose brood so, as it might get chilled. Also if the flow of nectar is poor it is not wise to expose combs in this way, as you can very easily start a bad case of robbing.

Let me congratulate you. You have the making of a good bee-woman all right. One who has the persistence and courage to find and clip a queen within three months after first seeing bees in a hive, has a future before her.

Mr. Terry Recommends Eating Honey

"Oats are rich in protein and in oil. Eat cream on them if you wish to, but milk will do. If you sweeten the oats be sure this does not lead you to overeat. Extracted honey will be much more wholesome to use than sugar." So says Mr. Terry in the Practical Farmer. Mr. Terry's writings have a wide circulation and no doubt his endorsement as to the wholesomeness of honey will induce more people to use it instead of sugar.

become popular within a short time is a "Bee-keepers' Institute." This could be held in conjunction with the Farmers' Institute. Such Institutes can be made very interesting and profitable and it is hoped that the near future will see many of them organized.

MORE BEE-KEEPERS' ORGANIZATIONS NEEDED.

There has been a lack of interest among the Texas bee-keepers, to attend meetings or conventions, for where there were at one time eight organizations of bee-keepers in Texas there are only a few now. Field meetings are of inestimable value also, and these can be held at various times and places, without first permanently organizing the bee-keepers. However, it is better to organize and band the forces closely first. There should be a larger number of sectional or district bee-keepers' associations in the great Lone Star State. There is room for them. The great difference of conditions in the different parts of the state, make it essential to hold these local meetings. These should all become affiliated with the State Bee-keepers' Association and thus strengthen the main Association of the State.

WORK OF THE STATE BEE-KEEPERS' ASSOCIATION.

The State Bee-keepers' Association should devote its time looking after the industry, especially such matters as cannot well be taken up by the smaller organizations. In fact, all subjects of a state wide nature should come before the State Association. A mistake too often made at the state meetings is the discussion of the less important matters instead of paying attention to the important subjects that involve the bee-keepers of the entire state. Topics that can be easily learned out of the many books on bee-keeping should not be given the valuable time at the state meetings. It should be remembered that many bee-keepers are required to travel long distances to attend a state meeting, and that one can hardly afford to do so for the discussion of little, every day subjects. It has been argued that there are always some new bee-keepers present who do not know the "A B C's," like the older ones, and that it is for their benefit that such common subjects are discussed. But these beginners can obtain this information from the many books or journals at a much smaller expense.

SOME OF THE IMPORTANT SUBJECTS NEEDING ATTENTION.

Crop reports, better methods of marketing, and honey prices are all three of more importance than the average bee-keeper places upon them. In fact, so important are these that they should receive most of the attention at state meetings. The standard requirements for filling the various receptacles in use in Texas, with the proper amount of honey, should

SOUTHERN



BEEDOM

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

The Texas Department of Agriculture and Bee-Keeping

Hon. Ed. R. Kone, of the Texas Department of Agriculture, is taking much interest in the bee-keeping industry of our state, and through his Department, is willing to give all the aid in his power.

He arranged with the writer, more than a year ago, to act as Consulting Apicultural Expert of the Department of Agriculture, and all the apicultural work has been turned over to one person. Thus all communications and enquiries can be given immediate attention.

Another step in the direction of helping the bee-keeper was taken by the Commissioner when he provided for the publication and free distribution of Bulletin No. 24, "Texas Bee-Keeping," a 142 page booklet dealing more directly with conditions and methods applicable in this state. A copy can be secured by addressing the Department of Agriculture, Austin, Texas.

The above arrangement grew out of the great number of enquiries for bee-keeping information received by the Department of Agriculture, not only from within the State but from other states and countries as well.

FURTHER WORK THAT SHOULD BE ATTEMPTED.

It is desirable to keep in touch with

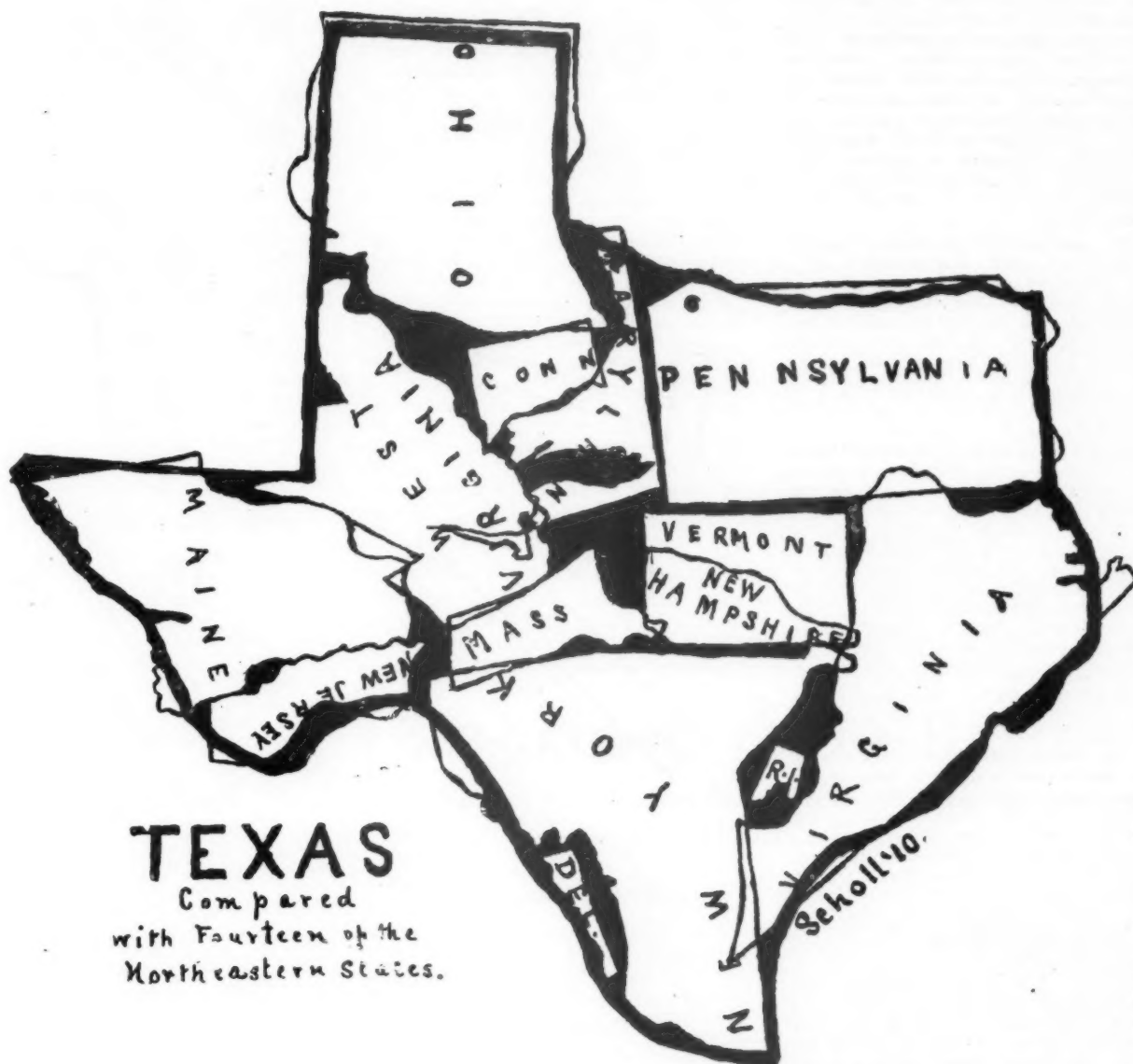
the bee-keepers of Texas, so that any information or literature can be sent to them. It is desirable to obtain all the names of bee-keepers in the State. It will be appreciated if bee-keepers will send in, not only their own, but the names of all other bee-keepers that they may know of.

It is also desirable for the Department to have statistics and such other data important for answering enquiries intelligently. All the aid that bee-keepers may give in this direction will also be thankfully received.

GETTING THE BEE-KEEPERS CLOSER TOGETHER.

On account of the great importance of united effort on the part of the producers it is desirable that the bee-keepers should get in closer touch with each other. It is of value to consult about the best methods of producing, harvesting, and more especially of marketing. The Department of Agriculture should be well acquainted with the needs of the producers. Bee-keeping is but one branch of agriculture, and it has to deal with all branches. It should be in a position to provide for lectures on any bee-keeping subject that bee-keepers or other persons interested in bee-keeping, may desire. Such lecture work should be encouraged more by the bee-keepers themselves. Another thing that seems likely to

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In a State of such magnitude there is room for organization among bee-keepers, and the State Department of Agriculture has a great field in which to extend its work.

be given thought. It is but a matter of time when bee-keepers will have to pay more attention to this. There is at the present time a great variance in the manner of packing the regular sizes of honey packages adopted as standard sizes by the Texas bee-keepers. It has been a custom of many to pack short weight gallons, half gallons and quarts, as well as sixty pound cans, and sell them at so much per pound and charge for 12 pounds, 6 pounds, 3 pounds, and 60 pounds. There is also a great difference of opinion even among the best bee-keepers as to the proper proportion of comb and extracted honey in bulk comb honey. It is essential that the State Bee-keepers' Association go on record as demanding that all packages be packed according to a set standard. There should be uniformity in packing as well as grading. Then the price for it should be looked after. There is no reason why

a short crop of honey should not bring the bee-keepers more than when there is a big crop. My observations are that there is hardly any difference, due, I believe, to the lack

of proper attention on the part of bee-keepers. It is useless for any individual to try to accomplish these results if the bee-keepers of the state will not co-operate.

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

Some Hive Tools I Have Seen in Honey Shops and Apiaries

There is a dearth of handy hive tools. The supply manufacturers make a few useful ones, but there are not enough for the various uses for which a bee-man needs a special tool, and few of the manufactured tools I have seen are

strong enough. Perhaps one reason is that the sale is too limited. It is easy for each bee-keeper to go to his blacksmith and have a few strong tools hammered out for a dollar.

Mr. W. B. Walcher, of Boulder, uses a handy hive and super scraping tool that is a joy to use. Figure 1 shows how it looks. A mower tooth is ground

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down until it is sharp on all three edges, and is a perfect triangle. A hole is bored in the center, and a half inch rod a foot long is either bolted or welded in. The other end of the rod is spread out to an inch and a quarter and sharpened for use, as a pry or hive tool. These three-cornered edges facilitate the scraping of supers, hives, and section holders—in fact, any corner with propolis in it can be easily cleaned out.

The next tool, No. 2, that a number of bee-men have appropriated, is a claw hammer with a steel handle spread apart at the other end, and sharpened for a scraper and nail puller. Such a hammer is fine for opening cases of honey or for use as a hive tool. This hammer is used by all fruit dealers, and is a staple in the hardware market.

But this little hammer is rather light, and some of our hurry-up bee-men have had their blacksmiths make them a heavy tool $1\frac{3}{4}$ inches wide made of a leaf from a carriage spring. One end is sharpened, with the edges square. At the other end, a blunt, round piece of steel is fastened as shown, to act as a crude hammer in case a nail or staple is to be driven. This is heavy enough to do almost any kind of prying.

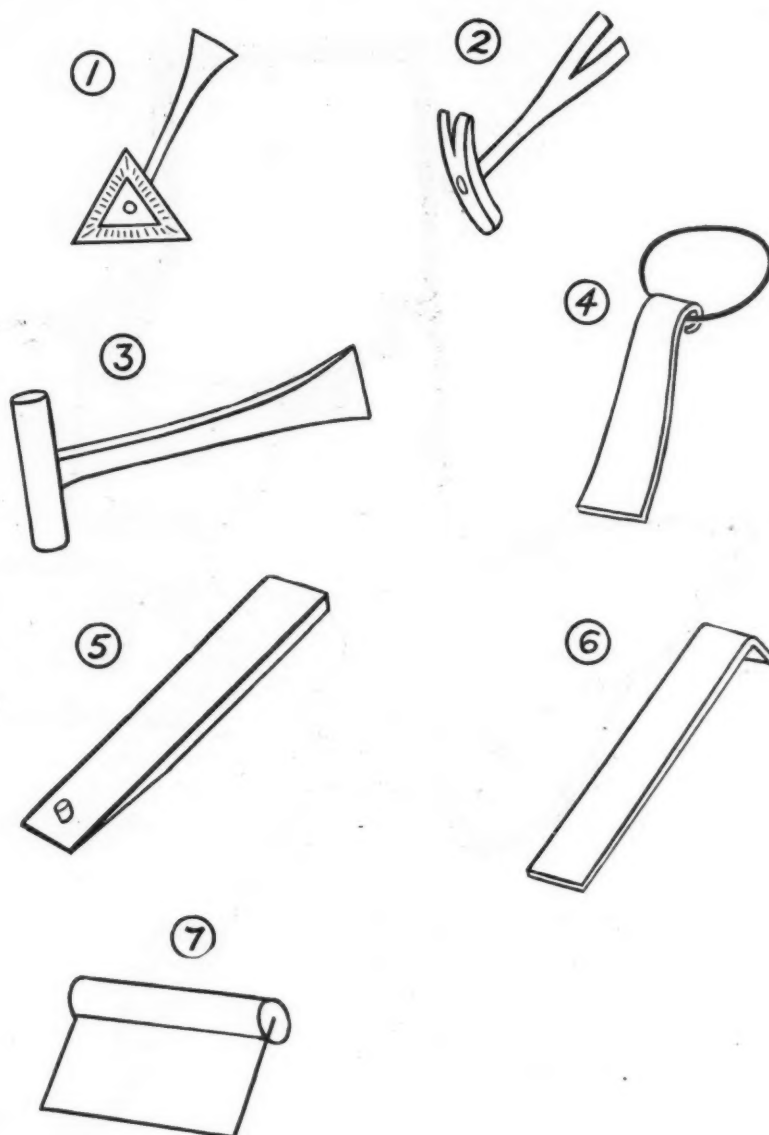
The tool shown in No. 4 is used by Mr. E. D. Nichols, of Montrose, Colo. It is about 7 inches long, but would be better if it were 9 or 10 inches long, and $1\frac{1}{2}$ inches wide instead of an inch. The handle end is curled over, and a heavy string loop pulled through so that the tool will always be dangling from your wrist when going from one hive to another. The advantage of this tool is that you don't have to keep picking it up.

Figure 5 is just another leaf from a carriage spring straightened and sharpened with a small bolt inserted about $1\frac{1}{2}$ inches from the sharpened end. This prevents the tool slipping into the hives too far when inserting between hives, supers, etc. It also protects the thumb and fingers from getting many a hard jolt if the super separates suddenly.

Number 6 is still another leaf of carriage spring sharpened at one end and curled over half way and sharpened also. This makes a fair scraper for covers, bottoms, etc.

Number 7 is a piece of saw blade cut $3\frac{1}{2} \times 5$ inches, and sharpened square, like a regular wood scraper. The round wood handle is a piece of broom handle; a saw kerf is made for the insertion of the blade. A few nails are then driven through after drilling small holes through the blade. We like this tool very much for scraping wood separators and section holders. For some work it is better than the tool shown in Fig. 1, but I want one of each.

When a blacksmith understands just what you want, you will be surprised what a neat tool he can make if he is careful. Any of these tools can be made by a blacksmith except, perhaps, Fig. 2, and while you are at it have a half dozen made, and then you can have another handy when you lose one.



SOME DIFFERENT HIVE TOOLS.

CANADIAN



BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Confusion in Names

In a recent issue of *Gleanings in Bee-Culture*, Dr. Miller protests against the use of the word "honey" as applied when giving yields of apiaries, as it is a very indefinite term when nothing is said as to whether extracted or comb is mentioned. He also calls attention to the fact that a worse mix-up is made when the term "foul brood" is used, and nothing given to let one know which brand of the disease is meant. In connection with this last criticism, I emphatically agree with him, and

I have been a "kicker" ever since the cumbersome term "European Foul Brood" was coined. It leads and will lead to endless confusion as long as the name is used, it would yet be a good thing to change to something that will not cause so many mistakes. Only a short time ago, so well known and practiced a writer as Mr. J. E. Crane, stated in *Gleanings in Bee-Culture* that he was surprised to see how differently "foul brood" acted in different localities, as in some locations it seemed more virulent than others, and spread much faster. I called his attention to the

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fact that in my experience, the old time "foul brood" was very much alike in all localities and its spreading all depended on whether there was robbing or mixing up of brood combs. Friend Crane replied that it was European foul brood he had in mind, and while this item is not to criticise friend Crane in anyway—for we all make mistakes—yet it shows how easily it is to cause a lot of misunderstanding by reason of a name being used that is not at all applicable in describing a disease; when the name is so nearly like another well known disease and yet widely different. "Black Brood" even if not the best name for this new pest, is much better than the name now used, and if our laws are not framed to cover diseases except when classified as "foul brood," the sooner they are amended, the better for all concerned.

Crop Conditions and Prospects

The crop of clover honey in Ontario will this year be above the average both in yield and in quality. While very little honey has been harvested in the eastern counties and but a slight yield as a rule in northern counties, the southwestern part of the Province has yielded so generously as to bring the yield above the average. The counties of Norfolk, Middlesex, Wentworth and Peel have given the heaviest yields. In our own county of York, the best yield in many years has been obtained. Prices are ruling about the same as last year, and as crops of grain are good in western provinces this year, there should be no trouble in disposing of all honey at a fair figure. Prospects for buckwheat were never better a few weeks ago, but at this date (Aug. 13) those prospects have nearly disappeared. For weeks we have had scarcely a drop of rain and all vegetation is drying. This year was a great clover year all over the province even in sections where it did not yield honey, but the next season bids fair to be the other extreme. Alsike is the main source of honey here, and at present, next year's acreage looks the smallest that we have had for many seasons. Basswood was a failure almost all over the province, as late frosts killed the buds in some sections while in others caterpillars stripped all the foliage from the trees.

Bees Stinging Black Objects

Periodically, the old discussion comes up as to whether bees sting black objects more than light colored ones. My own observations lead me to believe that the black is objectionable. An experience a short time ago strengthens my opinion. The minister of our church has about 25 colonies of bees near his barn. A few weeks ago he had his black and white spotted cow tethered about 40 feet from the bees. He has practiced

this for some time and never a bee touched the cow, 'till one evening about 5 o'clock in the height of the clover season, for some reason the bees attacked her and stung her badly. No one saw the start of the fracas, and nothing was known of the trouble 'till the cow in desperation broke loose her fastenings and came near the house. She was stung so badly that a veterinarian was called. She recovered after a few days. Nothing so remarkable in a cow getting stung, but the strange thing was that the black spots had five or six stings to one in the white spots. I think I heard our friend A. C. M. ask how much difference there was. While I cannot give a definite answer, still the difference was so great that all noticed the fact. The spots were all over the body of the cow, and yet the black spots were peppered full of stings while the white areas had but few. I do not attempt to explain the reason, but I have to believe what I see.

Direct Introduction of Queens

This evening I introduced some queens, and by way of experimenting

tried three on the direct plan as advised by A. C. Miller. I am not yet going to criticise the plan one way or another, but I do want to tell of a "fool trick" I did. I had let two go in all right, and was at the third hive with the cage in my hand, with finger over the end where the wire-cloth had been removed for letting the queen run into the hive. I placed the end of the cage in the hive entrance but her majesty was slow in leaving, so I started to open the cage on the side. In some mysterious way, that queen got out of the cage so quickly that I never once saw her and I have not the slightest idea where she went. Perhaps she is off to one of the southern states where she came from, but more likely, she is a corpse in front of one of the hives in the yard. What did I do about it? Really words failed to give satisfaction, I simply murmured "fool trick No. ———." I have introduced queens in many ways, and this is the first time one has ever been lost in that way. So please notice friend A. C. Miller, that I lost at least one-third of the queens on my first attempt at your method.

BEE-KEEPING



IN DIXIE~

Conducted by J. J. WILDER, Cordele, Ga.

Some Great Opportunities

The writer is just back from his vacation, which he did not spend in the usual way, visiting progressive bee-keepers. Instead I explored the southeast portion of Georgia as a bee and honey country. This is perhaps the darkest spot in Dixie beedom. I have always been interested in this section as a bee country, for I believe it contained great opportunities for our industry. I was not at all disappointed. I had hurriedly passed through some of this section once or twice before and had received some very good reports from small bee-keepers scattered about.

In a conversation some years ago with Mr. T. W. Livingston, a well known bee-keeper at Leslie, Ga., he remarked that Mr. Harper of Tallahassee, Florida, who perhaps is best informed as to our honey flora, wrote him that he found in certain sections more honey plants and a greater variety of them than anywhere else in the south. After personal investigation I can substantiate this statement. I know of no greater opportunities anywhere, nor a better section to refer to bee-keepers. It is almost a web of railroads and borders on the Atlantic Ocean with four good ports; Savannah and Brunswick, Georgia, and Fernandina and Jacksonville, Florida. Thus the northern market

can be easily reached by boats as well as by rail. The climate is very mild and general health as good as can be expected in any undeveloped country. There are many small progressive towns with schools and churches.

The honey produced in this section is all light in color and of excellent quality. The sources of surplus honey are ti-ti and huckleberry, gallberry, saw and cabbage palmetto, tupelo gum and white holly. Besides these well known honey-plants, there is a much longer list of minor ones yielding pollen the entire season. The first honey-plants yielding a surplus are ti-ti and huckleberry, which begin blooming about February 1; and the last one to bloom is cabbage palmetto, which goes out of bloom about the middle of July. These honey plants give about five months steady honey flow with but few intermissions. Any wide-awake hustling bee-keeper with a few hundred colonies of bees in several apiaries should harvest a good crop of honey during this time. The sluggard with only a handful of bees and high expectations would fall short.

There is one drawback to bee-keepers there and that is that winters are short and mild. There is considerable intervening time between the last honey flow in the summer and the first one in the spring. Much stores would be consumed and a close

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watch would have to be kept on the bees, unless abundant stores were left in the hives at the close of the harvest. There are a few colonies of bees scattered through this section. I examined them and found them "with the goods on them." Bee-keeping would be profitable there and the opportunities are so bright that I made arrangements to start up bee-keeping in one section where I could secure the services of a man who had experience with a few colonies and was enthusiastic over bee-culture. He at once subscribed for two bee-papers and purchased some bee-books, and is burning the "midnight oil" studying bee-culture and obtaining all the practical knowledge he can from his four or five colonies. He writes me that he doesn't know how he can wait until next year to enter bee-keeping as a vocation. He will have several hundred colonies in a number of apiaries and a good helper until he can take full charge.

Apiary Work

In most sections in Dixie the main summer honey flow is over. In a few sections there will yet be a flow in the fall, while in many others the flow will be light and lingering so that brood rearing will be kept at a high pitch. Each individual bee-keeper knows something of these conditions, as they exist in his neighborhood. He should know whether he wishes to requeen or make some good increase.

If a surplus honey flow is expected, the necessary supers should be prepared and given to the bees when the honey plants begin blooming. If there is no more surplus honey expected, all supers and surplus honey should be removed and comb-honey supers left off for the winter. Extracting supers should be placed back on the hives so the bees can care for the combs until the next season. In removing honey, always inspect the brood-chamber or bottom-story and make sure that the bees have sufficient stores. Many times bees store nearly all their honey in the supers and are short in the brood-chamber. Such a shortage can be overcome by supplying honey either from other one-story hives or from full-depth supers. If increase is desired, it can best be made from the strongest colonies by dividing them into two equal parts. The queenless halves should be left on the old stand and the others containing queens put on new stands. Otherwise most of the bees would return to the old stand. The queenless part on the old stand will raise a nice young queen or you can buy queens and introduce them. Ripe queen-cells may be given from some of the best colonies made queenless nine days before for this purpose. If you desire to requeen all or a part of your colonies, make a few of your very best colonies queenless by removing and placing in an empty hive

on another stand, the queen with about two frames of brood. In nine days these queenless colonies will have a number of ripe queen cells, which can be removed and placed in cell protectors. The undesirable queens may then be found and killed and a cell given each colony. As soon

as all cells are removed from the colonies that built them, place a sheet of newspaper over the brood chamber and set the hive bodies containing the two combs and old queen on top of this. They will soon gnaw through this sheet of paper and peaceably unite.

DISEASES OF BEES.



The Foul Brood Situation

BY J. E. CRANE.

Some time since Mr. E. D. Townsend made the statement that if once you had foul brood you would always have it. I consider the statement very unfortunate, and if he had ever had any experience with brood diseases, I am sure he would never have made it. I know it is not true of American foul brood, as I have had it among my bees several times, and found I could, with care, rid myself of it. I once went 25 years without seeing any signs of its re-appearance. I have had no experience with European foul brood among my own bees, but from my experience as an inspector, I find it yields to treatment quite as readily as American. I think more so. But in the hands of shiftless bee-keepers it is likely to remain.

How can we get rid of it? I have heard a number of lectures on this subject. While great importance is laid on disinfecting the hives that have housed a diseased colony by burning them out with a torch; a strong solution of carbolic acid or boiling water not being sufficient, it is claimed, to kill the germs that cause the disease. I have heard very little of the importance of getting rid of Pat O'Flattery's 5 colonies, foul with disease, which he has very conveniently forgotten to list with his taxable property. He lives over the hill in the edge of the woods on a road rarely traveled.

And then there is the "Widder Brown," who lives on the back road, and has 2 colonies that "set out back of the barn by the hog pasture, so they won't sting nobody." The swarms, when she has any, go to the woods and she gets little honey. Her hives are of little use except as a nursery for disease to torment her more enterprising neighbors.

Now I am not denying that bacteria larvae, or bacteria pluton, will not thrive on a strong solution of carbolic acid or an occasional bath of boiling water. What I do affirm is that the danger of not getting rid of these diseases by any intelligent, enterprising bee-keeper comes more largely from the inspector overlooking these small yards in out-of-the-way places, or the shiftless treatment of those he does find.

An inspector gets word from a town 30 miles away that there is undoubtedly foul brood in a certain yard. He takes the first train, reaches the place and "inspects." "Yes, sir, it is a bad case

of foul brood." He gives directions how to treat it; goes to the hotel, gets a good dinner, after which he sits on the veranda, smokes a fragrant cigar, and takes the next train home, looking every inch "an official." Such "officials" are not worth their weight in salt.

It is quite as important that an inspector should look for more diseases if he finds one yard infected, as to look after that one. If he visits all the yards in the vicinity he will find how much territory the disease covers, whether one township or a part of several, or a whole county. When he knows how far it extends he can go to work systematically and crush it out.

But it is not an easy task for an inspector to find every bee-keeper in a given area. I remember in working in one town I thought I had every bee-keeper on my list, when by accident I stumbled across one of the largest bee-keepers in the town whom no one had told me of. Only the other day I was talking with a man sitting beside me on the train, and he told me of an apiary of which I had never heard in a town which I thought I had covered very thoroughly.

Stamping out disease here and there while it remains all about you is not of much use. "But how about the bee-trees? Are you going to look them all up?" No, it is not necessary. If we take care of the colonies in the various yards about town the "bee-trees" will not bother us long, for these bees will soon die and the moth worms will finish the job.

So I say, cheer up my friends, I do not believe it is necessary that we should always have foul brood with us; although if we have shiftless neighbors we may occasionally "have a touch of it." Stamping out the disease here and there while it abounds on every side, is a good deal like putting down a Mexican revolution. It doesn't stay down.

Speaking of the use of a torch to burn out brood-chambers to disinfect them, is no doubt effectual, but in practical work I have found it hardly necessary. I visited a yard of 100 colonies two years ago, and almost every one was diseased. As the owner was a hard working farmer and a very good bee-keeper, I did not want to make him any unnecessary trouble. I told him I did not think it necessary to burn out everything. The worst colony I found I told him to just shake out in the brood-chamber, and in four days shake again without any cleaning. He did

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so, and the disease has not reappeared in that hive. I went over the same yard again yesterday, and found only two hives with foul brood, which, I think, a pretty good showing considering there has been considerable disease in other yards in the neighborhood within a year.

My idea is that the inspector should make it as easy for those having the disease as possible. The more obstacles we place in the way, the more difficult to get the average bee-keeper to do anything. Suppose the disease reappears in two or three colonies for lack of burning out their hives. It is far easier to treat these again than to burn out all the hives.

Perhaps I am making more fuss over the burning out of brood-chambers than might seem necessary, but where bees are kept in large double-walled hives, and packed loosely with planer shavings, it is more of a task to remove the brood-chamber, get the bees out, and burn out and repack than the rest of the work. I have gotten rid of disease several times during the past 50 years without burning out a single brood-chamber. But some one will ask, "If you got rid of it, how did you come to have it so many times?" How? By buying bees or honey, or combs that contained the germs of disease.

Middlebury, Vt.

It is needless to tell that such a feeder may be arranged for stimulative feeding, or by increasing the size of the hole to give a colony a very large quantity of syrup in a short time. The application of the principal to the bee-feeder is what I claim to have discovered.

Buck Grove, Iowa.

Feeding Bees

BY E. S. MILES.

ON page 114 for April, Mr. H. A. Wells criticises my advice, that "when you have fed your colony what you are quite sure is plenty, then feed it about 5 or 10 pounds more." I wish to call Mr. Wells' attention to the fact that I was discussing the feeding of colonies that were out, or nearly out, of stores, and not as his were, "Already had enough to have carried them through."

The difference is here: In feeding this sugar syrup to colonies destitute of stores, there is a large shrinkage between what the syrup weighs and what is left after the bees finish handling it and have it stored in their combs. This is why it is better to give 5 to 10 pounds more rather than just enough; for, in fact, it is impossible to tell just what is enough exactly for each colony. This shrinkage is variable, and the amount consumed by individual colonies also varies.

Mr. Wells fed "a lot of comb honey," very little shrinkage here you see. He fed it to colonies he was afterwards quite sure had enough already, and in addition he fed it so late in winter that it crowded the queen for brood-rearing, whereas my March feeding gives two months, on an average (for this locality), that the bees will use much more than they can gather to good advantage for brood-rearing, if they have it.

If my article on feeding in the February number is read carefully, it will be seen I was talking of whether colonies could be saved by feeding sugar syrup in the cellar in winter. The question of the brood-nest becoming crowded later is another matter altogether, and one should not attempt to avoid that by having it light in fall or winter, at least in localities such as Iowa.

"Millions at our house" up until about fruit-bloom, is a good motto for "this locality." At fruit-bloom, if favorable, comes the question of more room or increase. With me, I never have the least bit of trouble in getting bees to move honey to make room for brood, where I put on built comb; in fact, they sometimes do more of it than I like.

I lost 3 colonies myself the past winter, simply because I failed to practice what I preached, and "feed them another 5 or 10 pounds." I figured they "had enough," and two were dead a few days before setting out of the cel-

CONTRIBUTED ARTICLES

A New Feeder

BY A. F. BONNEY.

THE time was when if I got a bright idea I wanted to rush off and patent it, but after a few soul-harrowing experiences the fever abated, and I am now in not so much hurry to look for a fortune in an invention, particularly of an article of use to bee-men, so I give this new one to them.

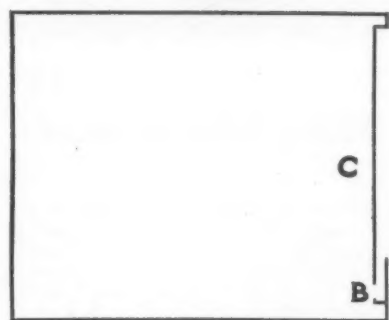
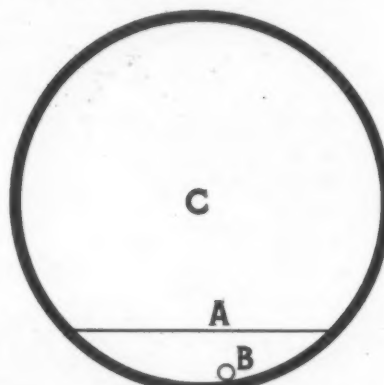
I have never yet found a feeder entirely satisfactory to me. Cans of syrup inverted over the frames will warm up, the air will expand and force the syrup out over the bees; wooden feeders of all kinds will leak and flood the hives, wetting up the bees and starting robbing; entrance feeders are baits for robber bees, while the use of candy is troublesome, so much so that I have yet to meet a bee-man who has used it.

The writer formerly kept chickens, and used a waterer that he thought perfect, and it is still in use by thousands. It is based on the well-known law that a small column of water will balance a large one, and is made by making a cup of part of the cover of a friction-top pail, or fastening a cup on to any kind of a can with an opening from the can into the cup. The vessel is stood up and filled, then laid on its side when the syrup will run into the cup until it closes the opening in the can, when the flow ceases until air is let into the can by the bees taking up the syrup from the cup.

To adapt this to a bee-feeder, bore a hole in the cover of a friction-top pail or can. This must be $\frac{1}{8}$ inch in diameter. To the rim of the cover solder a piece of tin 3 inches long and $\frac{3}{8}$ inches wide, cut to fit the curve of the cover's rim. This will make a cup about $\frac{3}{8}$ inches deep, 3-16 inches from front to back, and it will hold approxi-

mately two-tenths of an ounce of syrup.

As every one has several friction-top pails, quarts and gallons, such feeders,



THE FRICTION-TOP CAN MADE INTO A FEEDER.

in small numbers, may be made very cheaply, while if new cans must be used they need not cost more than 10 cents each. As they lie on the side while in use, they may be covered with packing, the cup coming right over a hole in the super cover and protected with a piece of burlap.

LEWIS HIVES ARE BUILT LIKE FURNITURE
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lar, while one was just falling off the combs when put out.

So I am trying to emphasize the fact that it pays, as a rule, to feed *plenty for winter*, when you *do* have to feed, to be safe, feed a "little more" than enough. I would be glad right now to pay \$8.00 a hundred for 600 or 800 pounds of sugar, if it could be delivered to me already stored in those colonies I failed to feed "a little more." Then I shouldn't need to worry how long these cold, cloudy, windy days would continue.

No, friends, when you feed don't be afraid to feed "a little more." I am determined to follow that course more in the future.

Dunlap, Iowa.

Double-Walled Hives in Northern Idaho

BY F. F. GEORGE.

WHEN I arrived in Idaho 13 years ago there were two men here who kept bees, one in the Langstroth hive and one in the Jumbo. They wintered in the single-walled hives just two winters, then they had no bees. Another man ventured on the same plan, with the same success. Then I ventured with my former custom of colony cases. Having followed nursing one year, I believed bees needed nursing. The last-mentioned man gave me a free half-hour lecture on this not being a bee-country, while my bees had wintered perfectly, and I had cases of honey at home. The first two mentioned men started again, imitating me, and succeeded. One of my neighbors winters his bees in single-walled hives, with a varying number of 4 to 19 hives. He loses 50 percent, and never has any honey to sell.

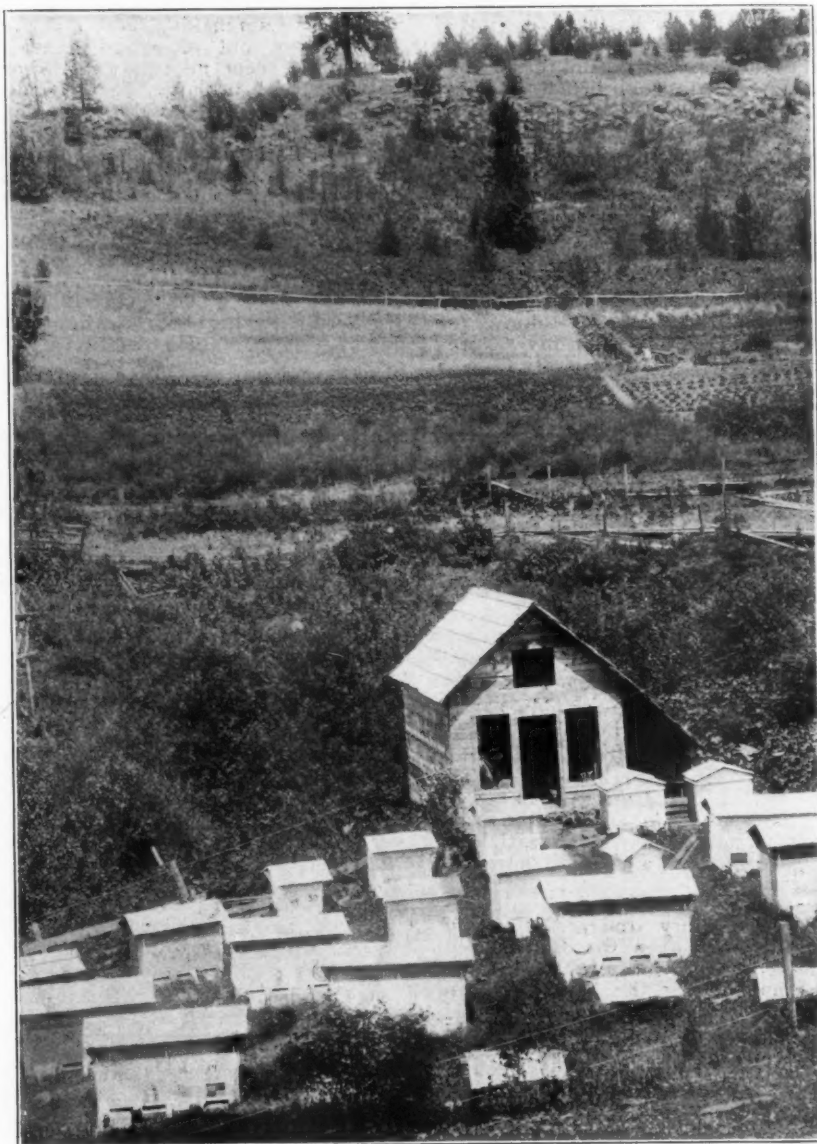
My bees have a 4-inch wall of sawdust and chaff, mixed, on the sides, and 8 inches on top. Several correspondents, using single walls, told me their success would be better with double walls. I doubt if there is a locality from Alaska to Key West, Fla., where the double-walled hive would not produce an even temperature, and give better results.

I have had a call from southern Idaho for bees. I think all bees there are wintered in single-walled hives. As has been written before, wild bees have better protection summer and winter than bees with a $\frac{7}{8}$ -inch painted wall. *Hives should never be painted*, but the outside case and roof should.

Bees should have double-walled hives summer and winter, but not necessarily packed in summer. The case then gives protection from wind and hot sun beating on the sides of hives. I am located in a canyon, narrow, and 200 feet below the plateau. I have never had the first indication of combs melting down. There is a cool draft nearly every night from the snow-capped Bitter Root Mountains.

Fraser, Idaho.

[The photograph of buckwheat on the front page was taken by Mr. George. Buckwheat is not one of Idaho's best crops, but it does well.—EDITOR.]



F. F. GEORGE'S COLONY HIVES WITH BUCKWHEAT FIELD IN THE BACKGROUND.

Selling Extracted Honey

BY G. A. BARBISCH.

I WISH to give the readers of the American Bee Journal my experience in selling extracted honey. After supplying the local market and selling as much as possible around home, I still had a few thousand pounds on hand. As I am a cripple, injured during an operation some years ago, I cannot walk, and only get around in a wheel chair, I worried considerably about selling the rest of my honey. Then an idea struck me, why not advertise? Knowing that the Germans are great honey consumers, I sent an advertisement to a German church paper, which I take.

In said advertisement I stated that I had choice white clover extracted honey to sell which I could guarantee to be absolutely pure, in 60-pound cans, at \$6.30 per can, two or more cans at \$6.00; freight not prepaid. I also stated I was a member of said church, and gave the name of our pastor as reference.

This advertisement had not been in the paper more than twice when orders for from one to two cans came pouring in from all sides; yes, from nearly every State of the Union. In a remarkably short time all my honey was sold, and orders still kept coming. Not wishing to disappoint those, especially the ones who sent money orders or checks, I bought more than 2000 pounds from a first-class bee-keeper.

The profit was small, but it added a large list to my number of customers. Yes, that \$3.00 advertisement more than paid for itself in a very short time. There is a little trouble in corresponding and shipping, but when you receive a nice letter (and, by the way, I have a good many), telling how well pleased they are with the honey, you are well paid for all your trouble.

If we should be favored with a good crop this season, I do not have to worry how to dispose of my honey at a good price, as the majority of my customers wrote me saying, "We shall order more of that good honey another year."

In closing, I wish to say to those

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who wish to establish a mail-order trade, do not exaggerate in your advertisement. Furnish only honey of the best quality, the best well-ripened honey, and remember, ill-flavored and unripe honey won't bring you any return orders. Put up your honey in the best possible shape, neatly labeled—only then will you be able to stand back of your product. Write a personal letter to your customer, telling him that if the honey does not give entire satisfaction you will send him back his money and take back the honey. If you do that, you will win his confidence, and if your bees gather a good crop of honey, you won't have to lie awake nights and worry about selling your honey at a decent price.

La Crescent, Minn.

Rearing Queens

BY G. M. DOOLITTLE.

SEE by the June number of the American Bee Journal that Wesley Foster and his helper are having some trouble in rearing queens as given in "Scientific Queen-Rearing." And I also note that both Mr. Foster, and the Editor in his foot-note, speak of the plan as given in that book, as requiring that the queen is to be put "in the upper story over an excluding zinc." This is something entirely new to me, and something which I never did in all the years in which I have kept bees.

As I have written for publication since the book was in print, when very early queens are desired before the colonies are strong enough to profitably occupy an upper story, such can be reared to fairly good advantage by slipping down a queen excluding-zinc to one side of the hive, so as to enclose two combs of young brood and one of honey, the comb containing honey being next to the zinc.

When using a 10-frame hive this gives 7 frames on the side the queen is to be left in, and 3 frames where we expect to put the frame having the prepared cell-cups. The hive, after it is thus prepared, should be left 2 days, when, at the time we are about to get the little larva for transferring, we take out the frame of honey and spread the 2 frames of brood apart preparatory for the reception of the frame having the prepared cell-cups.

This is done so that the nurse-bees may be clustered between these two combs of brood when the prepared frame is put on, as the best of queens are only reared where there is an abundance of nurse-bees to care for them. Now, did we put on an upper story as did Mr. Foster, we should have so divided the colony that the bees would have seen that there was a need of retrenching rather than expanding, and anything that looks like poverty, famine, or the need of contracting the cluster from insufficient heat, makes the bees averse to the rear-

ing of queens. If any are reared under such circumstances, they will be of a most inferior kind. Then by putting the queen above, as given in the June issue of the American Bee Journal, the most of the heat of the hive centers where the queen is, rather than where she is not, or where we wish to rear our best queens.

When any colony gets strong enough, or can be made thus by massing early maturing brood in it to occupy to overflowing two hives, then a queen excluding-zinc is put on top of such a hive, and over this zinc is placed another hive fitted as follows:

Next to one side of the hive is placed a division-board feeder, then three combs containing mostly eggs and small larvæ (this can be taken from other colonies), then three combs like the first three next to the feeder, and last an empty comb, thus completing the necessary 10-frame space. The two frames of eggs and young brood are to be taken from other colonies rather than disturb the hive below, and are used for the purpose of drawing many young nurse-bees right where they are wanted to feed the little transferred larvæ which are to be given two days later. If plenty of honey is coming in from the fields, no feeding need be done; but at any time and all times very little nectar is to be had, a good feed should be given in the feeder each night about sunset. This will keep the bees active, similar to what they are in swarming time, and this feeding should begin the night of the day *when the hive is prepared*, instead of waiting until the night after the cell-cups are put in.

Two days after preparing the hive, when you get the little larvæ for transferring, stop and take out one of the frames of honey from the prepared hive and spread the two frames of little larvæ and eggs apart for receiving the frame of cell-cups when you have them ready, so that the nurse-bees may be clustered between them, as given earlier in this article.

I see by what Mr. Foster writes that his Mr. Bird did his transferring of the tiny little larva outdoor in the sunshine in April. We do not try to rear queens here in the cold of central New York before June 10, and then, as well as at all other times when the mercury does not stand at 87 to 90 degrees in the shade, do this in our room (letting in the sunlight through a south window). Then if the mercury is less than 75 degrees in the shade, the frame having the prepared cell-cups is wrapped in a warm blanket when carrying it to the prepared colony, so that it goes to the bees at about the temperature necessary for successful brood-rearing.

I mistrust that most of the failures are due more largely to the matter of transferring the larva than elsewhere. I am constrained to give the fullest possible directions in this matter. To those who have not succeeded, I would say try the matter at swarming time,

or on some colony that has been queenless long enough to have queen-cells nearly ready to seal over, those having plenty of royal jelly in them. After having removed the larvæ occupying these cells, transfer the larvæ from your selected breeding queen to the royal jelly left, just as you removed the original larvæ from it, then put them back in the swarming or queenless colony. If this is a success you may know that there is no trouble on your part in the transferring process; but should it not prove successful, you may rest assured that you killed the larvæ in some way in manipulating them. If you succeed here, try the same natural cells in the upper story of a tiered-up colony, and if I am not greatly mistaken you will succeed here also unless you try in early spring or late in the fall, at which time the bees are averse to rearing queens except in queenless colonies.

If you succeed with these cells having royal jelly in them, and cannot with the cell-cups, then you may know that there is some mistake in your manipulation of the royal jelly; or else the cell-cups are not fashioned in accordance with those built by the bees. But you should have no trouble with the cell-cups if you fit your forming stick in accordance with a naturally-built cell at the time you find an egg in it.

A few suggestions about transferring: Make the point of the quill, or whatever you use, very thin and quite broad; then give the point enough curve so it will fit the bottom of the cells nicely. Now before trying to transfer the first larvæ, dip the point in royal jelly until it is thoroughly moistened with the same, when you will note that, as you pass it under the larvæ, said larvæ will float upon this jelly so it does not touch the transferring instrument at all, and it cannot be injured if you use any care in setting it down in the royal jelly you have previously placed in the cell-cups.

If you are bothered about seeing, shave the piece of comb containing the larvæ down close to the base of the cells. No one who can read the print on these pages should have difficulty in seeing perfectly.

And now (any one who should happen to fail in using the plan as given in "Scientific Queen - Rearing") don't think hard things of Doolittle, for I have no more interest in that book than I have in any other bee-books except that it is my "baby." I let the manuscript for the book go for less price than I get for this article, giving the whole thing to the world free, and sent out the matter with the only wish that it might bless the bee-keepers of the world, hundreds, if not thousands, of whom are being blessed in accordance with the multitude of testimonials which have been given during the past nearly a quarter of a century.

Borodino, N. Y.

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PUTTING IN A BATCH OF QUEEN-CELLS—MRS. T. R. TOWNS OFFICIATING.

Conditions in Cuba

BY D. W. MILLAR.

FROM the accompanying photograph you can see that all the queens in Cuba do not live in bee-hives. This puzzle picture (pick out the two Americanos) was taken near Finca Mayabe, near Holguin Oriente Province, where I am locating a new apiary with 250 nuclei, and where I will rear all my queens in the future on account of the

exceptional advantages the neighborhood affords.

The location is in a very fertile valley about 25 miles in length, extending to Nipe Bay, and of which there is always an abundance of natural flora. In addition to this my bees will have the 100 acres of orange and grape-fruit groves and nursery of Mr. T. R. Towns, one of the successful Americans in Cuba, to work on. It is because of his knowledge of the business, understanding soils, conditions and natural advantages in Cuba, Mr. Towns is able to

produce ripe fruit for shipment every day in the year, and sells most of it direct to the consumer in one-box lots and up, bunching shipments regularly to his New York agent for local distribution. The tangerine and King oranges are sold here on the trees one year in advance, and average from \$5 to \$10 per tree; 100 trees to the acre. Mr. Towns raises all kinds of tropical fruit and foliage plants, also hogs, mules, and other live stock.

Within a few miles of me is the Chapara sugar mill, the largest in the world. I am told this company will grind over 1,000,000 bags of sugar in Cuba this year. Some dulcet, hey! There is also another very large mill at Preston, near Nipe Bay. Its capacity is 400,000 bags. A bag is 325 pounds; market value, \$10.

Where hauling is necessary oxen are still the best in the country districts, and will be until we get some roads. Our railroads are as good as could be expected, and our shipping facilities from seaboard to all the outside world are unequaled.

A very large acreage of fruit groves has been planted in Cuba, and much of it is in good bee-locations still unoccupied; but as most of the growers follow their government reports and the experiments made by fruit-men in other countries, they appreciate the necessity of bees for the better pollination of their bees, and many who do not care for the profit are placing a few colonies in their groves for the good they will do alone; but those who do not care to go to the bother and expense of this are very willing that others should. Therefore, good locations can easily be secured.

Our little country is a very good one for many things besides bees. It is very rich, but just at present very poor in money, just having undergone a very thorough picking and cleaning by the retiring political party, but everything that was too big to carry is still here, and we now have a very able and good President, and should enjoy a period of very exceptional prosperity.

Holguin, Cuba.

Some Things About Cellar-Wintering

BY DR. C. C. MILLER.

(Continued from August number.)

CELLAR VENTILATION.

WIDELY varying opinions have been held as to the importance of ventilation for bees in cellar, and the amount of ventilation needed by them. Some claim they cannot have too much ventilation, provided there is no draft; some have claimed that they might be hermetically sealed without detriment. The latter might be true provided they could be kept constantly at that point of temperature where they are practically dormant. But has that ever

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PUZZLE—PICK OUT THE TWO AMERICANOS.

been accomplished, and is it likely that it ever will be accomplished?

I think Dr. Zander tells us that at a temperature of 68 degrees, a bee, in proportion to its weight, needs some 70 times as much air as a man. It may never be so warm as that in a bee-cellar, but it is reasonable to believe that a creature which needs such enormous quantities of air at 68 degrees must need a good deal long before it reaches that temperature. At any rate, no one has probably claimed that harm could occur from too much air provided there was no draft.

Views differ greatly as to the best way to ventilate a hive in cellar. Some think it best to have sealed covers with ventilation only below; others prefer more or less upward ventilation. In my first wintering, with box-hives, following Quinby, I turned the hives upside down, thus leaving the bottom hermetically sealed, and the top wide open. Later, with movable-comb hives, there was an entrance of $\frac{1}{2}$ -inch at the bottom with a $\frac{1}{4}$ -inch crack at the top. At present, and for years, I have had bottom-boards 2 inches deep, and the entrance 2 inches deep left wide open in the cellar, and the covers sealed shut by the bees. I doubt if it makes a material difference how the ventilation is given, only so there is enough of it. I doubt whether too much can be given.

But no matter how the hive is ventilated, it avails little if there is no good air outside the hive in the cellar. With sufficient doors and windows there ought to be little trouble about ventilating a cellar if it were not that in introducing fresh air one is likely to introduce too much cold. If one could hold the cellar at that temperature at which bees are almost entirely dormant, it would matter little about the ventilation, but, alas! that "if." When the outdoor air is too cold for the bees' welfare, the remedy is to raise the temperature in some way by artificial heat in the cellar. Formerly I kept a fire

in a stove in the cellar whenever it was cold enough.

When I had a furnace put in the cellar, in 1902, the matter was simplified. Instead of gauging the heat in the cellar, I now have to gauge the amount of air admitted to make the cellar cool enough. In most winters the outside door is more or less open almost all of the time. When it is cold enough to have the door closed, then the great difference in temperature between the outside and inside air makes enough ventilation through the walls and cracks of the cellar. If a warm spell comes, as sometimes happens in the middle of winter, or when the weather becomes mild in spring, then I open window and doors to their widest at night. The first time I did that—long before the furnace was in the cellar—I had a good fright. The bees, which had been quite noisy before the cellar was opened, now became several times worse. They made a great uproar, running all over the hives and hanging out in great numbers. It looked a good deal like a general wreck. But the bees did not jump off the hives upon the ground, and by morning they were very quiet. Indeed, on some occasions of the same kind afterward, I found the bees so quiet in the morning that the light could shine directly into the entrances without harm, and the window could be left open half the forenoon without the bees flying out.

LIGHT IN BEE-CELLAR.

It is perhaps generally understood that a cellar should be kept dark if bees are to winter in it successfully. Certainly darkness is very important at times. In a warm, muggy spell toward spring, with the temperature both in the cellar and outdoors up to 50 or higher, if light be admitted in the middle of the day, thousands upon thousands of bees will leave the hives and make for the light, never to return. If the cellar be kept dark, many bees may

leave the hives and struggle out their lives upon the cellar-bottom, but there will be no such wholesale exodus as if the cellar is at all light. So at such a time absolute darkness is at first requisite.

But at other times darkness is not absolutely necessary. Indeed, at the risk of being considered somewhat slack in orthodoxy, I may say that I am growing to lean somewhat toward the belief that it is better to have more or less light in the cellar the greater part of the time. Those who make a business of telling us what is best for the health of the human family, lay great stress on the healthful influence of plenty of light in our dwellings. We all know that an outdoor life is the healthy life, and in the outdoor life the light as well as the air plays an important part. If light be good for the human family, why not for the bees?

What harm does light do in a bee-cellar, anyhow? Just one thing; it allows the bees to fly out of the hives. That's all. If light can enter without making the bees fly out, then let in the light. And light does not make bees always fly out of the hives, by any means. Suppose some day toward the last of November half the bees of an apiary are taken into the cellar and the other half left on the summer stands. The chances are, nine out of ten, that the cellar will at once be darkened, and kept dark until the bees are brought out in spring. Then suppose, the day after the bees are taken in, the outdoor temperature stands at 40 degrees or less. The light shines full upon the hives outdoors, but the bees have no thought of flying out. Why should they fly out any more than the bees on the summer stands? As a matter of fact they don't. At least mine don't; and at such times they are allowed all the light that will enter through open doors.

As an illustration: March 9, at 9 a.m., the sun was shining brightly, and the doors were open, but window closed. Standing at the pile nearest the door from the furnace-room to the bee-room, which was about 7 feet from the door (the backs of the hives were toward the door), I could read with ease common newspaper print. Standing at a pile on the farther side from the door, and about 12 feet from it, I could read the same print, but with difficulty. The hives of this pile directly faced the door, but no bees came out. It will be noted that this was well along in the spring, when bees will not stand as much light as they will earlier in the winter. But the air in the cellar was fine, there having been quite a wind, with doors wide open. The temperature outdoors was 40 degrees, and in the cellar about 45; to be exact, it was 43 degrees at the bottom of a central pile, and 48 on the top.

From a good deal of observation I feel safe in saying that when other conditions are all right, light in the cellar can do only good and not harm. Only when other conditions are bad

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the cellar must be kept dark to keep the bees in the hive. Ordinarily a few bees will be flying out, even if only a little light be admitted, and their number is likely to be over-estimated. One day in the last of March I was told, "The cellar door is open and the bees are coming out in a stream." I stood inside the cellar, watch in hand, and counted the bees that flew out. In 5 minutes there were 14. But it looked a good deal more than that just outside the outer door, for they stayed circling about and made quite a show.

I thought it worth while to do a little figuring. I swept out the cellar 4 days after it had been previously swept, and swept up 9 pounds of dead bees. That made $2\frac{1}{4}$ pounds a day. I weighed $\frac{1}{2}$ ounce of dead bees, and there were 151. At that rate there were 4832 in a pound. So 10872 bees had died in each 24 hours of that 4 days. At the rate of 14 bees every 5 minutes, if they flew continuously for 24 hours, just 4032 would be lost in that time. So there were more than $2\frac{1}{2}$ times as many bees dying off all the time as were seen to fly out of the open door. That hardly looks as if the open door did much harm, even if the bees were flying out at the rate of 14 every 5 minutes.

Another thing worth mentioning is that moldy combs in my cellar are a thing unknown of late years, and that is due in part at least to the fact that the cellar is not kept constantly dark.

HUMIDITY IN BEE-CELLAR.

I never measured the humidity in my cellar, but I know that bees are more inclined to be uneasy in damp weather than dry. I know also that the cellar is much drier since a furnace is in it. Formerly, when the cellar was damp I practiced to a small extent putting in lime to dry it out. I suppose it did some good, but I cannot say how much. I have noticed that when the cellar was damp—before the furnace days—and the weather was muggy, the bees were more sensitive to light than when everything was dry. And so far as my observation goes, I believe the popular opinion is correct, that bees will stand much more cold in a dry than in a moist atmosphere.

MORTALITY IN BEE-CELLAR.

A certain number of bees die in winter, whether outdoors or in cellar. There is some danger that a mistake may be made as to the mortality in cellar. In one cellar scarcely any bees are to be found on the cellar floor; in another, with an equal number of colonies, three times as many dead bees may be swept up. But it is possible that the mortality may be less in the latter case than in the former, for in the first case all the dead bees have remained in the hive on the bottom-board, while in the other case they are on the cellar-floor. It is no doubt better to have them on the cellar bottom than on the bottom-board.

Deep bottom-boards—mine are 2

inches deep—besides being favorable to ventilation, give a much better chance to clean out the dead bees in the cellar. There is no danger that the entrance will be clogged, and if dead bees accumulate on the bottom-board it is easy to clean them out, provided the bees do not cluster down in the way, and in that case the bees are likely to keep the bottom-board clean.

The beginner need not be frightened to find many bees dying in winter, the number gradually increasing and becoming greatest just before time for taking out in spring. It may be useful to give the mortality in my cellar in the winter of 1912-13.

The bees, 93 colonies, were cellared Nov. 25. The dead bees on the floor of the cellar were swept up for the first time Feb. 14, after a confinement of 81 days. The second sweeping was March 12, after another confinement of 26 days. After another 16 days, March 28, the cellar was swept the third time. The fourth time was after another 4 days, April 4. Then the remaining dead bees were swept up after the bees were taken out of the cellar, April 5. It would not be fair to charge up to the last 4 days' confinement all the bees that were swept up after the taking out, for there would, of course, be some between and under the hives, that had accumulated through the winter. Also, it should be mentioned, these extra bees would make the mortality throughout the winter at least a little more than shown by my figures at the first 4 sweepings.

The number of pounds of dead bees swept up were: After the first 81 days, 14; after the next 26 days, $18\frac{1}{4}$; after the next 16 days, $18\frac{1}{2}$; after the next 4 days, 9; after the bees were taken out, 26. Counting 4832 dead bees to the pound, the average number of bees that died daily, in each colony, figures up as follows:

In the 1st period.....	8.98 bees
" 2d "	36.47 "
" 3d "	60.07 "
" 4th "	116.90 "

The average total loss for each colony for the entire 131 days was 4455, or a daily average of 34 bees. A deduction, however, should be made from this for the amount of dirt swept up with the bees from the earth floor. But this may be more than balanced by the dead bees not swept up, but carried out in the hives.

SOME GENERAL OBSERVATIONS ABOUT CELLAR WINTERING.

I don't know just how much better one kind of bees will stand confinement than another, but it is generally understood that in shipping queens by mail the escort should be of comparatively young bees. At any rate, young bees should not die off so fast as old ones; so my guess would be that for best success in wintering in cellar, as well as outdoors, it is well to encourage late breeding, so that there shall be a large force of bees that are young. Yet

breeding should not be so late that any bees shall not have had a flight before their winter confinement.

For winter stores in cellar, I would rather have a good quality of honey than sugar or anything else. Yet it would trouble me to give any proof for the correctness of this preference. Honey contains elements not in sugar, and if I were allowed to guess, I should say that these other elements were important in winter as well as in summer. Nor is this view disproved by the exceptional cases of bad honey or honeydew, when of course it is wise to replace it with sugar.

One advantage of a 2-inch space under bottom-bars in cellar is the opportunity it gives for feeding. Even if a hive is in the bottom of a pile, it is easy to shove in a sealed frame of honey, a section, or a cake of candy. If necessary, the comb can be wedged up so as to touch the bottom-bars.

A strong argument in favor of cellar-wintering is the saving in stores consumed. That argument loses much of its force when a furnace is in the cellar and the temperature stands a good deal of the time at 50 degrees. But when I see the bees come out in spring as bright as in the middle of summer, with no dampness or mold on the combs, I am quite reconciled to the increased consumption. With better management and proper arrangements, it might be feasible with a furnace to keep the temperature down to that point where consumption would be least.

I once reported bees quiet at 60 degrees. I'm just a little suspicious that at that time the thermometer may have registered several degrees too high. And yet, after a gale sweeping through the cellar all night, with sweet air all through the hives as well as in the cellar, a temperature of 60 degrees might be reached without stirring the bees into activity. But that possibility might not materialize.

Anticipation

BY L. L. ANDREWS.

AT first thought one might well say, "What a subject for a bee-keeping article." But the more I think over the idea, the more I am convinced that it holds the greatest key to successful bee-keeping. More especially is this so when we practice what our late bee-master, Mr. Hutchinson, always advocated, "Keep more bees."

There are two lines of work I have found that will urge a man beyond all others in working early and late, and many times on Sunday, too. One is bee-keeping; the other, seeking for gold hidden in the bosom of Mother Earth. When man is removing the pay dirt little by little, and it passes over the riffles or through the sluice box, that separates the shining gold from the gravel, dirt, and other materials that go to make up this world of

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ours, no one who has not experienced it can know how entrancing it is. And how even a lazy man will work, always urged on by the thought, "More work more gold," and "I'll strike it rich yet."

And what can you say of a good honey-flow, when every flower blooms to perfection, each one filled with that sweet secretion of nectar inviting the bees to come and work, even unto death, often in a few short days or weeks; that is the time when the bee-keeper gets busy, all day and half the night, nailing hives, wiring frames, setting foundation, with perhaps the wife and children (if he is fortunate enough to have them)? All are busy, and perhaps this is not enough. He sends a rush order for supplies; wants them right away; bees swarming; no room.

A supply man told me he had received an order for supplies, and also a letter asking why his goods had not been shipped the same day. Talk of anticipation; any one can anticipate that way. If you are in the business, 10 colonies or 1000, it makes no difference. What are you going to run them for, comb honey, extracted, or increase? It makes no difference, you will need supplies, and you cannot get them, much less prepare them for the bees in a day. During the winter and spring months we have many spare hours, when this work can be very profitably done. Suppose you are "tight" enough (we call it tight out here in the West, and it is a very fitting word many times), so that the interest is calculated on the investment?

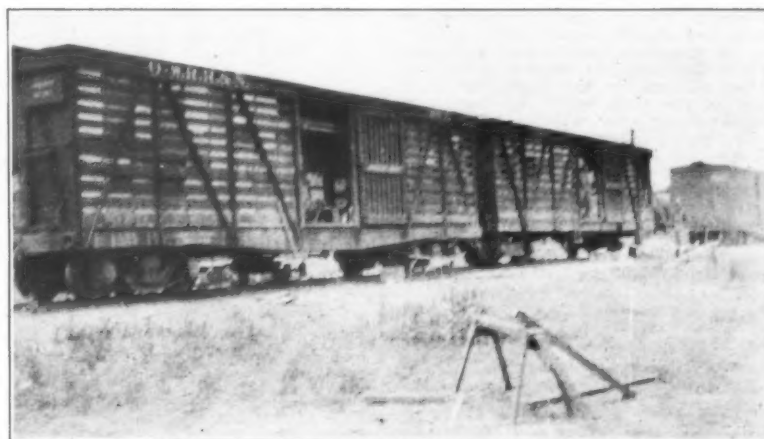
Many supply dealers give a liberal discount on early orders. But suppose we figure in this way: A colony becomes crowded for room, gets out of normal, and prepares to swarm. Perhaps it was a young queen which, if given plenty of room, would not have tried to swarm that season. It was good for say six, eight or ten dollars if you had been ready with supplies. Another one swarms. With everything ready any one will give it, often saving a colony that would otherwise have been lost. I find short, heavy honey-flows are the rule rather than the long drawn out steady ones, and when honey comes in with a rush that way, if you have anticipated, and have everything in readiness to put plenty of surplus room on every colony, one day will sometimes make enough difference to pay all the interest, to say nothing of the annoyance and over-time work by not having everything ready.

Of course we who produce honey by the carload must figure a little differently from the farmer with a dozen hives. But we expect to put on plenty of help during the busy season, and devote all our time to the business. I sometimes think the small bee-keeper loses more proportionately per colony than we who make honey production our business, by not anticipating the needs of his bees beforehand.

"Procrastination is the thief of time," says an old proverb. Overcome it by anticipating. Better by far have a few



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ALL LOADED AND READY TO GO TO THE SWEET CLOVER AND ALFALFA FIELDS OF UTAH.—L. L. ANDREWS.

too many supplies on hand than to be short when you need them. "Time and tide wait for no man." Neither do big, strong colonies of bees. When the honey-flow comes, they are going to do something besides lie idle in a

hot, close, thickly-populated hive. And the chances are, ten to one, they will anticipate a tree in the woods if you have not anticipated plenty of room for them in the hive.

Corona, Calif.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Prevent Increase—When Do Virgins Begin to Lay?

1. What is the best plan of management where no increase is desired?
2. How long after the prime swarm issues before the first virgin will begin laying?

WISCONSIN.

ANSWERS—1. What's best for one may not be best for another, but one good way is to

run for extracted honey and then follow the Demaree plan of preventing swarming. The plan is: As soon as there is danger of swarming, or about the time when the first natural swarms begin to issue, put all the combs of the colony in a hive-body, except one. That one you will leave in the old hive, and it may be one with the least brood.

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Even if it has no brood, merely honey and pollen, it will do. You will fill up the old hive with drawn combs or frames filled with foundation, and you will also put one of these in the vacant space left in the hive-body. Now put the queen in the old hive, place an excluder over the hive, and the hive-body with brood-combs over the excluder. The bees will not swarm, but will turn those combs of brood into extracting combs.

2. About 17 days, more or less.

Uniting—Transferring

1. I have 8 colonies in box hives. This winter I am going to buy modern frame hives, into which I wish to transfer my bees. As three colonies are weak I wish to kill these and get all the honey they have. You say a strong colony will winter better than a weak one. If that is so, would it pay to unite those three with some others, and when they have united put a bee-escape between them, and when they have all gone down take the top off and get the honey and render the old combs into wax?

2. Will the following plan work well for transferring? Say, I have five colonies in box hives and wish to transfer and I go to a hive to be transferred and smoke and drum out all of the bees into the frame hive except some to care for the brood that is in the hive at this time, which we suppose is in May or June; after which I set the old hive for, say, five days with its entrance closed over the frame hive and with a wire cloth between. After five days I replace the wire cloth with a queen excluder, which I let stay for fifteen days, or one day before all the brood is hatched, then I put on an escape-board in its place; and when they have all gone down, take the old hive off, save all the good combs and melt the others.

3. Do you think that a company can afford to sell a good two-story hive fitted with two comb-honey supers and one brood-chamber for \$2.00 in flat? NORTH CAROLINA.

ANSWERS—1. Yes, that will work all right, only you must look out, when you give the excluder, that the queen is below it. To make sure about it, you can drum all the bees out of the upper hive, dump them down at the entrance, and then set your upper hive over the excluder.

2. Yes, only it is hardly necessary to leave the wirecloth as long as 5 days. Likely 2 days would be long enough—just long enough for the queen to get started laying below. Indeed it might work all right to give the excluder at the start, and the less time the wirecloth is left the better it will be for the brood above it.

3. I don't know much about the cost of such things, but they are not likely to offer what they cannot afford, although sometimes quality suffers for the sake of making a low price.

Shook or Brush Swarming—After-Swarms

From what some contend "all" one should go by, is the symptom culminating in the presence of capped queen-cells. Within two weeks, I had about six of such colonies. It was just after apple bloom and before white clover, albeit that there were lots of dandelion. Aside from this the weather was cold and rainy and bees much confined, so that with every spell of sunshine the bees from most every colony were very lively. It seemed to me better to destroy the queen cells and avoid a further crop before shaking and brushing. What is your attitude: shake, especially when there are several queen cells or destroy and put off until very close-ness of actual honey-flow?

2. When there is more than one queen



ED SWENSON, OF SPRING VALLEY, MINN., AND A HIVE BARROW OF HIS OWN INVENTION.

cell in a colony will there be further swarming? When will the first queen destroy the other cells?

PENNSYLVANIA.

ANSWERS—Shake-swarming has been well called anticipated swarming, and is practised not because we want the bees to swarm, but because, if the bees are determined to swarm, we want "to beat them to it," if you will allow the slang. So it really comes to the question whether the bees will swarm if we don't anticipate them. And that will lead you pretty clearly to the ground you now occupy. It is true that the starting of queen-cells is proof that the bees contemplate swarming, but it is also true that bees are not infallible in their judgment about its being best for them to swarm, and sometimes they give up the notion of swarming and tear down the cells. At other times they go on and swarm when it would be better for them if they didn't. Flow or no flow (although generally bees will not swarm without a flow) it often happens that if you destroy the cells started they will not start others for some time, indeed sometimes not again that season. So if you find cells and think it not yet time for swarming, destroy them. Ten days later, if you find only eggs or very young larvae in cells, you may destroy again, if you think it too early to shake. But if, ten days after your destroying cells you find cells well advanced, nearly ready to seal, then you must shake if you want to head off swarming.

2. When a colony sends out a prime swarm there will always be found in the hive a number of queen-cells, half a dozen, a dozen, or more. If I am correct, your question is: When will afterswarming follow, and when will there be none? Of course in the former case the workers stand guard over the queen-cells, protecting them from the first emerged virgin, while in the latter case she is allowed to destroy the cells. It looks as if the matter of afterswarms or no afterswarms was always left open until after the issuing of the prime swarm, and indeed until after the emergence of the first virgin. Then it seems to depend on whether the bees think

they can afford to swarm or not. If there is a good flow of honey there seems little risk, and one or more afterswarms will be likely to issue. Possibly the strength of the colony may have something to do with it, at least with the first afterswarm, for sometimes they seem to get reckless with later swarms, sending out only a handful of bees, and leaving the mother colony weak. There is no way for the bee-keeper to tell by looking in the hive whether the bees intend to send out afterswarms or not, unless it be at the very last, when he may see the oldest virgin digging open the cells to destroy the inmates, or may see the workers protecting the cells from the virgin. But the bee-keeper has it in his power to make the bees decide against sending out any afterswarms, in a way often mentioned in this journal. When the prime swarm issues he hives it and sets it on the old stand, placing the mother colony close beside it. Then in about a week he moves the old hive to a new place 10 feet or more distant. That's all; and he may feel quite sure there will be no afterswarms. The philosophy of it is easy. The first afterswarm issues about 8 days after the prime swarm. If, just before this time, the old hive be moved some distance away, it will be depleted of all its field-bees; for when these field-bees go to the field they take no note of any change, and when they return, instead of looking up the hives from which they went, they return straight to the old place, and join the swarm. Thus it happens that no honey will be coming into the old hive at about the time the first virgin emerges, and the bees feeling that a dearth is upon them will permit the destruction of all the occupants of the remaining queen-cells.

What Grade of Foundation to Use

I am going to have to buy foundation for 1500 Hoffman frames for the next season and do not know whether to buy medium or light brood. I have used both and can see but little if any difference in results. I have had no trouble with light brood sagging. I wire my frames but do not use splints. Which do you think is the better to use?

OHIO.

ANSWER. It's merely a question of which

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American Bee Journal

will succeed best, and as you have no trouble with the lighter foundation sagging it will be economy to use that.

Don't hesitate to send all the questions you like.

Ventilation—Swarming—Prevention

1. I feel at times perplexed about ventilation. Most of my hives have bottom boards with removable blocks in back, so that when the latter are removed, there is a clear sweep of breeze; entrance being of same size as gap at back. Towards winter, the bees propolize the back block airtight. Yesterday was a hot sultry day, evidently the bees appreciated the ventilation. About 10:00 p. m. there was a cool mild breeze from the northwest. It seemed to me a good idea to close up the rear of hives, as many of the hives face south. The north wind could enter the back. I attended to this before going to bed and while doing this a number of the hives had bees clustered thickly outside at the entrance and up the front. Why do you suppose the bees did this, when the heat of the day let up by 8:00 p. m.? Were they escaping the mild north wind or protecting the brood by almost closing the entrance?

2. Please give an opinion of the following for discouraging swarming: With regular examinations of all of one's colonies always take away *entirely* every frame with a queen cell, using such frame elsewhere and substituting, should this be rather depleting, with a new frame with full foundation?

PENNSYLVANIA.

ANSWERS—1. Your ideas of ventilation seem to be right enough, but you don't know how to carry them out. Neither do I. The ideal thing is to change the ventilation as often as the weather changes, even if that be several times a day. Plainly, such a thing is impracticable. I don't know of any better way to approximate it than to go somewhat by continued spells of weather. Of course through the summer season hives should be more open than in winter. When a hot spell comes that is likely to continue for several days, then it is well to open up as much as possible. If a cool spell comes, then close up. The part that you don't know, and I don't know, is what the weather will be within the next few days. If we open up for a hot spell, it may be cool and vice versa. The only advice I have to give is to lean toward too much rather than too little ventilation.

Regarding that colony that closed the entrance by clustering there when it became cooler, I don't at all think they did that to keep the brood warm. It was the same reason as always; it was too warm inside; and I don't suppose they felt like thanking you any for closing it up.

2. If you mean to substitute a frame filled with foundation for each frame found with one or more queen-cells on it, and to keep that up say every 10 days, I think it would not only discourage swarming but prevent it entirely. At the same time it would discourage if not prevent entirely a good crop of honey.

Exposing Combs to Cold

1. Does it injure empty extracting combs to keep them where the temperature goes below freezing?

2. If not, would it be safe to stack them up in the yard with a sheet of heavy tarred paper between each super? WISCONSIN.

ANSWERS—1. The combs may be slightly cracked with very hard freezing, but that is a small matter compared with the advantage that freezing kills all the bee-moth, their larvae, and even their eggs. I should cer-

tainly prefer to have the combs exposed to freezing in winter.

2. That will be all right.

Bee-Space Above Frames

I build my own hives. Is it necessary to have bee-space between cover and brood frames? I find some hives do not have this.

MINNESOTA.

ANSWERS. By all means have a space of about $\frac{1}{4}$ inch between cover and top-bars. This for the sake of allowing a passage over the frames in winter, and also because if there is no such space the bees will glue the cover tight to the top bars. This is on the supposition that there is nothing between the cover and top bars. Formerly it was a more or less common practice to have a sheet or quilt over the top bars, and in that case no space is needed except enough room for sheet or quilt.

Best Kinds of Clover and Locust—Buckwheat

1. Which is the best kind of clover for bees, the ordinary white clover or the big sweet clover?

2. Our nurserymen do not seem to know what kind of locust trees I should set out for my bees. Will you please tell me?

3. I have a patch of buckwheat now in full bloom but my bees do not pay any attention to it. What do you think is the cause of this?

OKLAHOMA.

ANSWERS—1. Circumstances alter cases. If you mean which is the best kind for you to encourage, then it depends upon what you already have. If white clover is plentiful and you have no sweet clover, by all means encourage the latter. If you have plenty of sweet clover and little white clover, then pursue the opposite course. It should be said, however, that it is much easier to increase sweet than white clover. Unless you own land by the hundred acres, so as to change the land from cultivated crops to grazing, you can have little effect on the amount of white clover, while you can easily scatter sweet-clover-seed in waste places where it will multiply.

Your question may, however, be as to which is better, a place where the bees have all the white clover they can take care of, or all the sweet clover. I don't know the answer to that question. I have always supposed that bees could gather nectar more rapidly from sweet than white, and have supposed that was the general belief, but in *Gleanings* for August 15 the editor says: "It is probable that there is no great amount of nectar at any one time in the sweet-clover blossoms; for very often, in spite of the abundant growth, the bees do not get very much surplus." Possibly we may, before long, have reports from those whose bees have access to large areas of sweet clover that will help settle the question. Until that statement in *Gleanings*, I should have said that sweet clover would give more surplus than white. But I'd rather

er have both, for white clover yields before sweet, then both run awhile together, and sweet continues after white is all done.

2. I don't know. I have an impression that the common black locust is the better honey-yielder, but the honey-locust may be better than I think. Certainly the name would indicate it. Can any one tell us about this?

3. I think buckwheat sowed about the first of July yields nectar better than that sowed earlier, and yours may have been sown too early. However, buckwheat is like white clover and other plants, it sometimes fails to yield nectar, no matter whether early or late, and I don't know why.

Chickens Eating Bees—Supers—Moving Bees

1. Is it a common thing for chickens to eat bees? We had one that would stand in front of a bee-hive and eat bees until it was full. I thought it would die but it kept it up for two weeks and was doing well.

2. I have a colony of bees that wouldn't accept the super. I put in a section of honey and still they wouldn't accept it. I exchanged their super for one on another hive with a few pounds of honey and lots of bees; gave them a little smoke and put it on their hive. I watched for dead bees but didn't see any. Did they stay in the hive or go back to their old home?

3. The super is now nearly full. Is it advisable to take it off?

4. Next spring I want to move 20 colonies in a wagon. When would be the best time to move them and how would be the best way to load?

INDIANA.

ANSWERS—1. Testimony is somewhat mixed on this subject. For the most part it is claimed that chickens do not eat bees, or if they do it is only the drones. Some, however, say that chickens eat workers, especially some chickens that have learned the trick.

2. Like enough your colony was not strong enough to do much in supers. The bees that you gave in the super from another colony probably staid where they were put, at least most of them, but if there were any field bees among them they would likely return to their old home.

3. It is well to take away sections as often as a complete superful is ready, although it is hardly best to wait until the corner sections are all sealed, for if you do so the central sections will have their cappings darkened. The unfinished section may be assembled from different supers into one super and returned to the bees to be finished.

4. It doesn't matter such a great deal what time in spring you move them. If you move them when it is freezing hard, there is danger that the combs will break. If you move them after they have begun to fly freely, you must take the precaution to close the hives the evening before moving, otherwise you will lose some of the field bees.

Put them in the wagon with the frames running crosswise, as the greatest shaking is from the wagon swinging from side to side.

REPORTS AND



EXPERIENCES

Queen-Breeding Notes

It looks as if every man has a way of his own and believes his way is best. On page 236, *American Bee Journal*, Mr. A. D. D. Wood shows his way of catching and clipping

a queen's wings. While that way will do, I have one that I like better and gives no chance to injure the queen.

I pick up the queen by both wings with my right hand and put my first finger under

American Bee Journal

her. She will take hold of my finger with her feet (three on each side of finger). I now grip the three legs on the left with thumb and finger on left hand and with my right hand I use the slim shears and clip either wing or both if I wish and put her head in the hole in the cage. With one finger behind she marches in. I then hold the cage between thumb and middle finger of the left hand and the first finger acts as a door to close the hole in cage to prevent the queen and bees from escaping while filling the cage with escorts.

It is an established fact that some queens are injured in the mails and I believe very few if any, are carelessly handled by the queen-breeders. As a sample case I will state that Brother Wood sent me a \$5.00 queen, and I am sure he put her up in fine condition. But she has never (since I received her) had a strong colony of bees and some of her daughters are extra good breeders.

The lack of fresh air, the sudden stoppage of egg-laying, the rough handling of the mails and the confinement in small cages, would all have a tendency to do damage to a queen that is taken from her hive in the prime of her egg production.

We, as breeders, must use large, well ventilated cages and use the best judgment in making proper food to provision the cages and put in escorts of proper age. Then the purchaser should understand that when the queen is damaged Uncle Sam is to blame and not the breeder.

GRANT ANDERSON.

San Benito, Tex., July 26, 1913.

Too Dry for Clover

The basswood honey crop was good this year. The white clover started out fine but when it was in full bloom the dry, hot weather burnt it out so it was not what was expected.

JOHN B. WELS,

Dubuque, Iowa, Aug. 4, 1913.

Bee Sense

A few years ago, Peter Brandow of Tiskilwa, Ill., moved on a farm, caught a swarm of bees out of the trees around the house, and made a hive for it out of old boards. In two years he had seven colonies, he sold three of them for \$5.00 apiece. Last spring he put up fifteen little decoy boxes, made from waste board from the store, and so far caught thirteen swarms, by placing the entrance facing the south or west, for bees know which way the storms come and will not enter a place exposed to them. He has now seventeen good colonies of bees. His older colonies have over 100 pounds of honey in them, but he tells the grocers he will not handle it 'till cool weather, for the combs stand up under the handling better in the fall.

Who can beat that record for a beginner. The next best that I have heard of is that his nephew, who never has tried to have bees, caught seven swarms out of the trees this year, and therefore has not bought any bees for his start.

REV. GEO. A. HOOD.

Tiskilwa, Ill.

Will Not Extract Closely

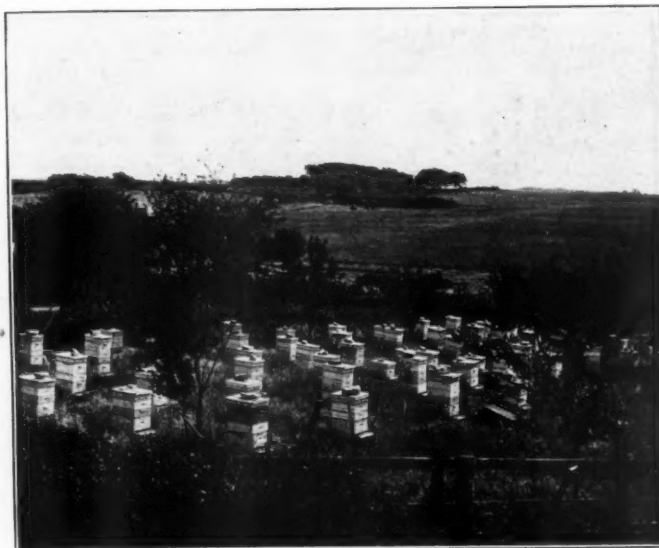
Honey flow through June was good, about 75 pounds per colony, but ended July 1st, two weeks sooner than usual. July is very dry. Weather Bureau report July driest on record. Prospects poor for fall flow. I will not dare extract too closely.

E. A. DORSEY.

Dixon, Ia., Aug. 2, 1913.

Good Crop in Iowa

I started this season with 40 colonies of bees. I have 63 now and have taken off 2640 lbs. 94 supers on the hives yet, about 40 of them full. I expect over 4000 pounds. We never had a better year. Plenty of white clover and basswood. I had two colonies on scales several days and they gathered from four to seven pounds. One day one of them gathered seven pounds. They kept me busy through the best of the season. I have kept bees nearly thirty years and



APIARY OF FRANK HILL, SABETHA, KAN.

have passed my 75th year. I had 3707 pounds of honey last year, but this is my banner crop. The honey is fine. I am putting it on the market at 13c and may have to drop it one-half cent. I am the only beekeeper in this county that went through the hard seasons three and four years ago and held his own. I very seldom lose any through the winter. I have a dry cellar. If I had twenty years more to live and was well and hearty, I could make money with bees now. But I am an old war pensioner and have seen hard service.

WM. CLEARY.

Algona, Iowa, Aug. 8.

Another Dry Report

Attached are two pictures of my small apiary. They did mighty well 'till about July 8, when we had a lot of hot winds that



A KANSAS APIARY WHEN THE CROP IS ON.

stopped everything. I have 3000 pounds extracted and about 100 cases No. 1 comb honey all from clover.

It looks bad, as we are having the driest time any one knows of in this part of Kansas. We have had no rain since June 25 and the temperature has been close to and above the 100 mark most of the time.

FRANK HILL.

Sabetha, Kans., Aug. 12, 1913.

Over 100 Pounds to the Colony

Up to date I have taken off 621 sections of nice clover honey from 12 colonies, Spring count, and expect to take off at least 300 more; then the golden rod will be in next and then buckwheat, but of the latter there is not much in this locality. If this season is good for the golden rod and buckwheat, I expect to take off at the least calculation

1200 sections for this season. Not bad for a man who works every day in a saw mill, who has to do all his apiary work before he goes to work and after he comes home in the evening; not bad for a man who lives in the city not over four squares from the Court House. No swarms got away from me this season, as I clipped all queens and my wife catches them in a cage I have and puts them back in the hive from which they issue. Next morning I go through the hives and cut all the cells; then when the queen issues again in two or three weeks, I kill the old queen and cut out all cells but one. This does away with the swarming for the balance of the season; and you ought to see the hives. They are boiling over with bees. This plan gives me young queens to go into winter quarters. All of my honey brings 20c here at the house and it is no trouble to sell a man the second time.

F. LANGOHR.

Columbia City, Ind., Aug. 6, 1913.

A Beginner in Dakota

I am a beginner at the bee business and have never seen any bees except my own. North Dakota has less bees than any other state in the Union. I started last year in April having one colony shipped to me from Minnesota. I had about seven swarms last summer, but all but two were destroyed by robbing. My first swarm filled an eight frame hive with brood and swarmed again just thirty days later. I took 100 pounds of honey from the two surviving colonies. I wintered two colonies and they seemed to come out in the spring as strong as when I put them in in the fall. I wanted increase and during the winter I had prepared sixteen hives with supers, but up to date, July 10, there is no sign of swarming. I obtained some pound packages of bees from Alabama in April, each of which has now increased to about four frames. With these I now have six colonies. But I have not had a drone in any of my colonies this summer, except some that came from Alabama and they were all killed off within a week after they arrived.

As near as I can judge the symptoms, my strongest colony has been afflicted with bee-paralysis for the past six weeks. This colony has already filled one extracting super with honey and has made a good start on a super of sections. It is doing good work and yet each day it drives out about a teacupful of dead or sick bees. These bees lie on the ground in front of the hive for several days before dying. It was getting worse until last week when we had a heavy rain, which seemed to check it. I have thrown fresh earth over the dead and sick bees and have tried to sweep them away but each morning there would be a new pile accumulated.

Perhaps this trouble will disappear when cold weather comes. Our honey flow ends about September 1, and as there is no pros-

American Bee Journal

pect of a natural swarm I intend to divide one colony which is not quite strong enough to make any surplus, and think I can build it up to two good colonies for winter.

C. E. GOODSELL.

Dunseith, N. D., July 20, 1913.

Dry in New York

White honey crop is a failure. Buckwheat has got to have rain soon to amount to anything.

GEO. L. FERRIS.

Atwater, N. Y.

Caught 20 Swarms

My little busy bees are rushing me in this hot weather. Last winter I lost all but seven colonies. I cleaned out the old hives, set them around in the timber and have caught twenty swarms. I shall get five or six barrels of honey and one thousand pounds of super honey.

A. C. BUTLER.

New Castle, Neb., July 30, 1913.

Classified Department

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

BEES AND QUEENS.

PHELPS' QUEENS are hustlers.

NUTMEG ITALIAN QUEENS, leather color. After June 1, \$1.00.

A. W. Yates,
Hartford, Conn.

GOLDEN QUEENS that produce 5 and 6 band bees. Untested, \$1.00; Tested, \$3.00.

1A9t Robert Inghram, Sycamore, Pa.

FOR SALE—Pure Italian Queens, by return mail; no disease.

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A LIMITED number of Leather Colored Italian queens. Send for price list.

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WILL SELL untested Golden during September and October for 50 cts each, or six for \$2.50.

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D. F. Talley, R.F.D. 4, Greenville, Ala.

GOLDEN ALL-OVER QUEENS. Untested, \$1.00. Tested, \$3.00. Breeders, \$5.00 and \$10.

1A9t Robert Inghram, Sycamore, Pa.

QUEENS—Improved red-clover Italians, bred for business; June 1 to Nov. 15. Untested queens, 75c; select, \$1.00; tested, \$1.25 each. Safe arrival and satisfaction guaranteed.

1A1y H. C. Clemons, Boyd, Ky.

WANTED—Young man, single, wants steady employment in apiaries; five years' experience; will go anywhere. Mention wages.

A. R. Kirkman, Wallhalla, Mich.

FOR SALE—Italian queens, 3 bands. Untested, one, 60 cts; six, \$3.50. Tested, double price. Satisfaction guaranteed.

J. I. Banks, Rt. 3, Liberty, Tenn.

HARDY Northern-reared Queens of Moore's strain of Italians; ready June 15. Untested, \$1.00; 6 for \$5.00; 12 for \$9.00. See testimonial on page 210.

P. B. Ramer, Harmony, Minn.

I WILL MAKE quick delivery of Untested Italian queens (Doolittle strain), 60c each;

\$5.00 a dozen. I ship nothing I would not use myself.

Edward O. Meserve,
Box 126, Ventura, Calif.

VIRGINIA three-banded Italian queens. Untested, 75 cts. Tested \$1.00. All dead queens replaced free. Ready May 15.

6A4t S. Click, Box 16, Rt. 2, Mt. Jackson, Va.

DAY-OLD Virgin Queens will please you. Good way to get fine Italian stock; 50 cents each; \$5.00 per doz. Untested, \$1.00. Tested, \$1.50.

Geo. H. Rea, Reynoldsville, Pa.

FOR SALE—Untested queens that produce, 75c; tested, \$1.00; hybrids, 30c. S. H. Rickard.

8A3t 506 Machesney Bldg., Pittsburg, Pa.

FOR SALE—Choice virgins, 40 cts. each; 3 for \$1.00; untested, 60 cts.; tested, \$1.25; breeders, \$2.50. Italians or Carniolans.

Stanley & Finch, 1451 Ogden Ave., Chicago.

FOR SALE—Untested Golden Italian queens 50c each; 4 hybrid queens, \$1.00.

8A2t J. F. Michael, Winchester, Ind.

PHELPS' QUEENS will please you.

ITALIAN QUEENS—3-band bred from the best stock procurable for honey-gathering qualities. Untested, June, \$1.00; after, 75c. Tested, \$1.50; select tested, \$2.00.

5A4f R. A. Shults, R. F. D. 3, Cosby, Tenn.

GOLDEN QUEENS that produce Golden Workers of the brightest kind. I will challenge the world on my Golden and their honey-getting qualities. Price, \$1.00 each; Tested, \$2.00. Breeders, \$5.00 and \$10.00.

2A1f J. B. Brockwell, Barnetts, Va.

MONTANA QUEENS, bred in the Mussel-shell Valley. No other bees within 60 miles; foul brood unknown; all queen candy boiled. Three-banded Italian queens ready June 1.

Untested, \$1.00. Tested, \$1.50. Orders booked now.

6A4t Elso Apiary, Elso, Mont.

SPECIAL—Golden-all-over queens that produce workers of the brightest kind. 5000 mated queens was my sales last season. Untested queens each 75c; 50, \$32.50; 100, \$60.00. Tested, \$1.25. Select—Tested, \$2.00. Breeders, \$5.00 and \$10.00.

J. T. Dunn, Queen Breeder,
6A7t Rt. 3, San Jose, Calif.

THE TWO B's of quality—Italian Bees and Sicilian Buttercups. For all that is best, unexcelled. Untested queens \$1.00 each; six for \$5.00. 2-frame nucleus with untested queen, \$3.50; 3-frame nucleus, \$4.00. Buttercup eggs and stock in season.

6A4t H. William Scott, Barre, Vermont.

GOLDEN and 3-band Italians, also gray Carniolan queens. Tested, \$1.00 each; 3 or more 90c each. Untested, 75c each; 3 to 6, 70c each; 6 or more, 65c each. Bees per lb., \$1.25; nuclei per frame, \$1.50. A discount on orders booked 30 days before shipment.

1A1f Bankston & Lyon, Buffalo, Leon Co., Tex.

QUIRIN's famous improved Italian queens, nuclei, colonies, and bees by the pound, ready in May. Our stock is northern-bred and hardy; five yards wintered on summer stands in 1908 and 1909 without a single loss. For prices, send for circular.

Quirin-the-Queen-Breeder, Bellevue, Ohio.

GOLDEN and 3-band Italians, also gray Carniolan queens. Tested, \$1.00 each; 3 or more 90c each. Untested, 75c each; 3 to 6, 70c each; 6 or more, 65c each. Bees per lb., \$1.25; nuclei per frame, \$1.50. A discount on orders booked 30 days before shipment.

3A1f C. B. Bankston, Buffalo, Leon Co., Tex.

THREE-BANDED Italian Queens and Bees. Untested queen, 75c each; six, \$4.25; twelve, \$8.00. Tested, \$1.25 each; six, \$7.00; twelve, \$12.00. For select queens add 25c each to the above prices. Nuclei without queens, 1-frame, \$1.50; 2-frame, \$2.50; 3-frame, \$3.00. 1-lb. bees, \$1.50; 1/2-lb. bees, \$1.00. Add price of queen wanted with bees.

Robert B. Spicer, Wharton, N. J.

CARNIOLAN QUEENS—These queens are bred from best imported strains. If any queens should be impurely mated we will replace them free of cost. Prices for bal-

ance of season: Untested, one, 75c; six \$1.25; twelve, \$8.00. Tested, one, \$1.00; six, \$5.50; twelve, 10. Address,

Wm. Kernan, Rt. 2, Dushore, Pa.

CHOICE QUEENS from June to Sept. 1 at \$1.00 each; six for \$5.00. Place orders now, and have them filled in rotation.

5A1f D. J. Blocher, Pearl City, Ill.

THIS is a good time to introduce Phelps' Golden Italian queens. We will have them until snow flies. Send for prices on late orders.

C. W. Phelps & Son,
3 Wilcox St., Binghamton, N. Y.

FINE ITALIAN QUEENS—Three banded; especially prolific, hardy and gentle. Unexcelled as honey gatherers. Personal attention to orders. Satisfaction guaranteed. Queens by return mail. Untested, 75c each; six for \$4.25; doz., \$8.00.

J. F. Archdekin, Rt. 7, St. Joseph, Mo.

MURRAY's famous North Carolina bred Italian queens (red clovers and goldens) for sale again. As good as the best; no foul brood known. They are as good honey gatherers as can be obtained, and winter as well. My improved strain is carefully selected, and bred up from Moore's, Root's and Davis' improved stock. Select untested, one, 75c; doz., \$8.00. Tested, \$1.25. Select tested, \$1.50; extra select tested, \$2.00. Breeders, \$3.00 and \$5.00.

H. B. Murray, Queen-breeder, Liberty, N. C.

HONEY AND BEESWAX

"NULL'S FAMOUS MELILOTUS HONEY." Sample for stamp. Null Co., Demopolis, Ala.

WANTED—Comb, extracted honey, and beeswax.

R. A. Burnett & Co.,
6A12t 173 S. Water St., Chicago, Ill.

FOR SALE—Fine, Rich, Pure White Clover Honey; also Light Amber Alfalfa. Put up in any size packages, any quantity. Write for prices.

11A1f Dadant & Sons, Hamilton, Ill.

FOR SALE

FOR SALE—Empty second-hand 60-lb. cans—two cans to the case, good as new, 25 cents per case.

C. H. W. Weber & Co.,
2146 Central Ave., Cincinnati, Ohio.

MY ENTIRE APIARY of 175 colonies Italian bees with complete outfit for running same for comb honey; also International Harvester Auto Truck. Selling on account of sickness.

J. S. Shatters, Fort Lupton, Colo.

FOR SALE—Forty Colonies of Brown Italian Bees in 10-frame dovetailed hives, Hoffman self-spacing frames. No disease. Same to be had any time after Oct. 1. Also Clover Extracted honey in any size packages.

A. J. Diebold, Seneca, Ill.

FOR SALE—Fine Italian queens; untested, 75c; \$8.00 per dozen; tested, \$1.00; breeders, \$3.00. Nuclei, \$1.25 per frame. Full colonies in new modern eight-frame hives, \$7.00.

California Bee Co.,
500 S. Rowan Ave., Los Angeles, Calif.

FOR SALE—130 stands of bees with or without fixtures. Bees in good 8-frame hives. Hoffman frames, mostly wired. No disease. Owner died. Inspected by State Entomologist. Write.

Mrs. Ida McCauley,
Rt 2, Madison, Ind.

FOR RENT—An 80 acre small fruit and bee farm, with 75 stands of bees and fixtures suitable for running same. Six room frame house, new. Two good barns and outbuildings; 40 acres in pasture; tobacco land. A man with small family; experienced in care of bees preferred. Must give best of reference. Write.

Mrs. Ida McCauley,
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American Bee Journal

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BEE-SUPPLIES—none better. 35 years of experience.

1 Ideal Winter-Case, complete.....\$2.50
 100 Hoffman Brood-Frames in flat.... 2.50
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 DADANT'S FOUNDATION.
 Medium Brood, per pound..... .50
 Thin Surplus " "..... .66
 Extra Thin " "..... .60
 Discount on larger amounts.
 Satisfaction guaranteed or money refund-
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BEE-KEEPER, let us send our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap. White Mfg. Co.,
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FOR SALE—Bees, Honey, and Bee-Keepers Supplies. A. E. Burdick, Sunnyside, Wash

POULTRY

FOR SALE—Buff Orpington eggs, pure bloods: \$1.00 for 15. Satisfaction guaranteed. 2Aty W. H. Payne, Hamilton, Illinois.

HONEY LABELS

THE NUMBER of enquiries coming in for honey labels has been so large that we have decided to put in a stock of these for the convenience of our readers. Should you be in need of anything in this line, send for a copy of our label catalog, which will be sent free, American Bee Journal,
 Hamilton, Ill.

SITUATIONS.

YOUNG MARRIED MAN wants steady employment in apiaries; 12 years' experience. Furnish best of references. Will go anywhere. Newton Cale,
 8Atf Rt. 1, B. 88, Floresville, Tex.

WANTED—Experienced help. Fall flow and winter packing; two months or more. 6Atf F. W. Pease, Lansing, Iowa.

MISCELLANEOUS

REDUCED PRICES ON Eggs, Chicks, Ducklings, White Leghorns, Penciled or Faun Runners. Free circular. Could use Italian Queens or Bees in exchange. 6Atf
 R. O. Dickson, Box 61, La Harpe, Ill.

COMB HONEY WANTED: size 4 1/4 x 4 1/2 x 2; best pale quality. Write us with price and particulars. Packed and free on board. Canadian and London reference. T. Smith,
 Cambridge Street, London, W., England.

"A Year's Work in an Out-Apiary" is the name of a booklet by G. M. Doolittle, the well-known honey-producer of New York State. He tells how he secured an average of 114 1/2 pounds of honey per colony in a poor season. It is fully illustrated, and tells in detail just how Mr. Doolittle has won his great success as a honey-producer. The price of the booklet is 50 cents, postpaid, but we club it with the American Bee Journal for a year—both for \$1.30. Every bee-keeper should have a copy of this booklet, and study it thoroughly. Address all orders to the American Bee Journal.



Bingham Bee-Smokers are Self Cleaning as the Cover Sets Fire and burns Up. The Valve in the bellows gives you a Smoker with life.

Smoke Engine 4	inch stove	-	\$1.25
Doctor	3 1-2 " "	-	.85
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Two larger sizes with metal legs and hinged cover. In copper, 50c extra.

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A new magazine owned and run by the bee-keepers, filled with Western life as depicted by the best talent on bee topics obtainable. Special department on crop and market conditions during season.

ADVERTISERS

Queen-Breeders' Department

1 inch, \$2.00 per issue

Classified, 15c a line

Write for particulars

Published Monthly by the

California State Bee-Keepers' Ass'n
 Los Angeles, Calif.

GEO. L. EMERSON, Manager
 3497 Eagle Street

HONEY LABELS

Owing to the many enquiries we have had for Honey Labels, we have put in a line of these for the convenience of our readers.

Send for catalog, giving samples of labels with postpaid prices. We also list Envelopes and printed Letter Heads.

American Bee Journal, Hamilton, Illinois.

American Bee Journal



"falcon" QUEENS



Three-Band and Golden Italians, Caucasians and Carniolans
 July 1st to October 1st
 Untested - - - \$.75 \$4.25 \$ 8.00
 Tested - - - 1.00 5.50 10.00

Tested, \$1.50 each; and Select Tested, \$2.00 each.

All queens are reared in strong, vigorous colonies, and mated from populous nuclei. Instructions for introducing are to be found on the reverse side of the cage cover.

OUR BRAND OF FOUNDATION

"falcon" foundation is coming in more constant use every year, being adopted by the largest and most prominent bee-keepers in this country, to say nothing of those in foreign lands where our foundation is largely used. We feel confident that after you have used one lot of "Falcon" foundation, which is made in our plant at Falconer, N. Y., you will purchase it in the future, and are sure that you and your bees will be pleased with it in every respect.

Full line of hives, sections, and supplies manufactured by us at Falconer, N. Y. Write for samples of our foundation.

All goods guaranteed.

A trial will convince you.

Red Catalog postpaid.

Central States distributors: H. S. Doby, St. Anne, Ill., C. C. Clemons, Bee-Supply Co., Kansas City, Mo.

FACTORY W. T. FALCONER MFG. CO.,

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Where the good bee-hives come from

HONEY CANS and PAILS

Our Friction-top Honey-cans, Slip Cover pails, Honey Shipping cans, Round and Square, are standard containers for honey.

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We Make a Specialty of Manufacturing SECTIONS

They are the Finest in the Land—None Better.

Our Prices will make you smile. We want to mail OUR BEE-SUPPLY CATALOG to every bee-keeper in the land. It is FREE. Ask for it. H. S. Doby, St. Anne, Ill., carries a full line of Our Goods, and sells them at our regular catalog prices.

AUG. LOTZ & CO.
Boyd, Wis.

Please mention Am. Bee Journal when writing.

BIG MONEY Growing Helianthi, the new "wonder plant." Beats gin-seng or anything else that grows. Thrives in any soil or climate. Write for full particulars. Burgess Seed & Plant Co., 3 A. B., Allegan, Mich.

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Sell their members Friction-Top Honey-Pails and Cans at a low price as follows:

Aprox. Capacity	Per 100 Lots of 50	Per 100 Lots of 100	Per 100 Lots of 500	Per 1000 Lots of 1000
2-lb. Can.....		\$2.25	\$2.15	\$20.00
2½-lb. ".....		2.75	2.60	24.00
3-lb. ".....		3.00	2.85	28.00
5-lb. Pail.....	\$5.00	4.75	4.50	42.50
10-lb. ".....	7.00	6.50	6.25	60.00
12-lb. ".....	7.25	6.75	6.50	62.50

If not a member, send a dollar extra with your first order, which will pay your dues for a year, and we will send you the **Bee-Keepers' Review** for the last half of 1913, giving the first six articles of that sensational series of ten articles, "The Management of 3000 Colonies in 50 Yards;" also the April and May numbers of the **Review**, containing the report of the National meeting at Cincinnati, these two numbers alone containing 96 pages. A cordial invitation is extended to all bee-keepers to join the National at this time. Address, with remittance, **The National Bee-Keepers' Association, Northstar, Mich.**

W.H.Laws

Will be ready to take care of your queen orders, whether large or small, the coming season. Twenty-five years of careful breeding brings Laws' queens above the usual standard; better let us book your orders now.

Tested queens in March; untested, after April 1st. About 50 first-class breeding-queens ready at any date.

PRICES: Tested, \$1.25; 5 for \$5.00; Breeders, each \$5.00. Address

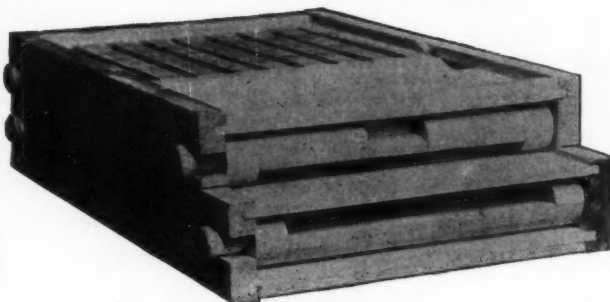
W. H. Laws, Beeville, Texas.

American Bee Journal

The Robbers Disturb You When Feeding

Easy Solution, Use the

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No worry
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PRICES: \$2.00 F. O. B. LIVERPOOL, FOR 8 FRAME SIZE.
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Dr. Chas. G. Schamu, Liverpool, N. Y.

Tennessee-Bred QUEENS

41 years' experience in Queen-Rearing
Breed 3-band Italians ONLY

I am at last up with all contracts, and can fill orders by return mail—2 to 5 dozen daily. Prices remainder of season:

Untested, one for 75c; six, \$4.00; twelve, \$7.50. Tested, double these prices. The very best BREEDER, \$10; Select breeder, \$5.00. Write for prices on larger orders.

John M. Davis, Spring Hill, Tennessee

BEE - KEEPER'S NOVELTY POCKET - KNIFE



Your Name and Address will be put on one side of the handle as shown in the cut, and on the other side a picture of a Queen-Bee, a Worker-Bee, and a Drone-Bee. The handle is celluloid, and transparent, through which is seen your name. If you lose this Knife it can be returned to you, or it serves to identify you if you happen to be injured fatally, or rendered unconscious. The cut is the exact size; it is made of best steel. When ordering be sure to write exact name and address. Knife delivered within two weeks after we receive order.

Price, postpaid, \$1.00; or with a year's subscription to the American Bee Journal—both for \$1.80; or given FREE as a premium for sending us 3 New subscriptions at \$1.00 each.

American Bee Journal, Hamilton, Illinois.

RUSH ORDERS

BY MAIL Has your "forgettery" been working? And right this minute you need foundation or other items. See page one of our catalog, and it gives parcel post rates on various articles.

BY EXPRESS Larger shipments than can go by mail we can rush out at once. Parcel post and express orders receive our first attention.

BY FREIGHT Our rule is, "Ship same day as order is received," and we break it only when absolutely necessary. Notice that Lansing is the railroad center of Michigan from which freight shipments can be delivered quickest.

And we fill all orders with Root's Goods. Just remember that, too. Send for catalog. **Beeswax wanted.**

M. H. HUNT & SON,
143 Condit St., - Lansing, Mich.

Established 1885

WE CARRY AN UP-TO-DATE LINE OF
BEE - KEEPERS' SUPPLIES

Write for our 64-page catalog free, and for lowest prices on supplies. Full information given to all inquiries. We handle the best make of goods for the bee-keeper. Freight facilities good. Let us hear from you.

JOHN NEBEL & SON SUPPLY COMPANY
High Hill, Missouri

P-O-R-T-E-R

(Trade mark.)



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SAVES { HONEY TIME MONEY } AT ALL DEALERS

Each, 15c; Doz., \$1.65, postpaid

If your Dealer does not keep them, order from Factory, with complete instructions.

R. & E. C. PORTER, MFRS.,
Lewistown, Illinois

H. J. PFIFFNER

Wholesale and Retail Dealer
in Bee-keepers' Supplies
Send for Catalog

Emmetsburg, Iowa.

NO 1913 CATALOGUE! To keep up the old price I will avoid all expenses possible and will not print any catalog. I have some 1912 left. Order from your old catalog, or I will mail you one.

Best white pine hive 1½ story 8 frame, \$1.45; 10 frame, \$1.60 in lots of 5. Best sections per 1000, \$4.40; 2000, \$8.60; 3000, \$12.60; 5000, \$20; No. 2, 50c less. Plain 25c less.

H. S. DUBY, St. Anne, Ill.

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PROGRESSIVE POULTRY JOURNAL ?

It is published in Mitchell, South Dakota, and is a live paper devoted to the interests of better poultry and more of it. Has practical writers of experience in raising poultry. Well illustrated. Send for free copy.

Progressive Poultry Journal
Mitchell, South Dakota

ROOT'S POWER HONEY-EXTRACTORS

Our new catalog is full of information about these labor-saving machines. With the difficulty of getting competent help, the power extractors are being sold largely in this and foreign countries, and the present demand is far greater than ever before. Read what a California producer says in a letter to a disinterested party, which we were permitted to publish:

GENTLEMEN:—I should like to say a few words in favor of the ball-bearing Root Automatic Extractor, as I believe it is as near perfection as it can be. This machine runs so easily that a few turns to get it up to speed is all that is necessary; and the men, while using the No. 17, which I formerly had, could average only 1000 lbs. per day, while with this machine they can average 2000 lbs. with but one additional man. No apiary can afford to be without one of these machines.

I feel like congratulating The A. I. Root Co. for making an invention that is such a satisfaction financially to the honey-producers interests.

B. B. HOGABOOM, Elk Grove, Calif.

—HERE ARE A FEW MORE—

A word about the power extractor I purchased from you through H. L. Jones, of Goodna. I found it to work very satisfactorily, and it will do all it is claimed to do and more. I use the gasoline engine for several purposes besides driving the eight-frame extractor, such as driving the washing-machine for the lady of the house, and corn cracking and grinding. I consider it one of the best speculations I made in connection with the apiary.

F. C. GOLDER, Pittsworth, Queensland.

Yours of the 16th, also the brake-band for power-extractor, came to hand. Thanks for sending it so promptly. This is my second season with the power extractor. I would not like to be without it now, even if I had only fifty colonies.

DAVID RUNNING, Grindstone City, Mich., July 10, 1910.

I received the extractor I ordered of you some time ago. It arrived in good shape. I set it up and extracted 143 quarts of honey, sold it at 35 cents a quart. The extractor is just fine—does the work completely.

F. D. KING, Athens, Ohio, Aug. 16, 1912.

The engine I got of you this spring has done fine. We ran it all fall, and never had any trouble at all.

V. V. DEXTER, North Yakima, Wash., Jan. 19, 1911.

For Full Particulars See Our Catalog The A. I. ROOT COMPANY, Medina, Ohio

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Michigan.....M. H. Hunt & Son, Lansing
New Mexico.....Roswell Seed Co., Roswell

Missouri.....Blanke Mfg. & Supply Co., St. Louis
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RAMER'S QUEENS Of Moore's Strain of Italians

Ready June 15

Untested, \$1.00; 6 for \$5.00; 12 for \$9.00

April 28, 1913.

P. B. RAMER, Harmony, Minn.—
Dear Sir:—The 30 queens I got of you in 1911 were the best queens; built up the fastest, and gave the largest yield of honey I have had in twenty years of bee-keeping. My average was 160 lbs. to the colony in 1912, and I lost a part of the flow for want of super room.

Yours very truly,

HALVER J. HALVERSON.

Rt. 4, Preston, Minn.



ITALIAN BEES Choice Home Bred and Imported Queens

Reared in full colonies

Prices for August:

One untest. queen \$1.00
One tested queen \$1.30
One select tested queen \$1.60
One Breeder \$2.45
One comb Nucleus, no queen \$1.00

½ lb. bees, \$.00; 1 lb. \$1.75.

Safe arrival guaranteed. For description of each grade of queens send for free catalog.

J. L. STRONG,

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QUEENS OF MOORE'S STRAIN OF ITALIANS PRODUCE WORKERS

That fill the supers quick
With honey nice and thick.
They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc. Untested queens, \$1; six, \$5; 12, \$9.00. Select untested, \$1.25; six, \$6.00; 12, \$11. Safe arrival and satisfaction guaranteed. Circular free. I now have 750 nuclei, and am filling orders by return mail.

J. P. MOORE, Queen-breeder,
Route 1, Morgan, Ky.

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is the best, handsomest and most valuable fruit growers' paper published in the world. It is handsomely illustrated and shows the Western methods which have been so successful in winning high prices.

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HOOD RIVER, OREGON.

GRAY CAUCASIANS

I was the first to import the true Gray Caucasian Bee into the Occident. They are bred under my instructions in the Caucasus Mts. expressly for me. Their WORTH is unexcelled. Send for prices to

A. D. D. WOOD

Box 61, Lansing, Mich., or
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P. S.—They are a true race, and not made by Man.



Fine Yellow

Italian bees & queens. If you need a fine yellow Queen quick, try Fajen and you will order more. Extra fine queen, only \$1.00; untested, 75c. 3-fr nucleus, only \$2.75. Full colony in 8-fr. hive with fine tested queen, \$5.50.

J.L.Fajen, Stover, Mo.

American Bee Journal

HONEY AND BEESWAX



CHICAGO, Aug. 18.—Arrivals of honey up to this date have exceeded that of the ordinary season, and at present the market is not active. This may be attributed in part to the hot weather and the fact that the peach season has not yet culminated. Prices are nominal, with the best grades of white comb bringing from 17@18c per pound, and the off grades from 1@3c less. The best grades of extracted bring from 8@9c per pound, according to kind and quality, with the ambers ranging from 6½@7½c per pound. Beeswax is steady at from 30@32c per pound, according to color and cleanliness.

R. A. BURNETT & CO.

BOSTON, Aug. 20.—Fancy and No. 1 white comb, 16@17c per pound. New fancy white extracted in 5-gallon cans, 10@11c. Beeswax, 30c. Pure white honey in barrels, 9c per pound.

BLAKE-LEE COMPANY.

INDIANAPOLIS, Aug. 10.—Honey is moving freely. Fancy white comb is selling at 16@17c; No. 1 white, one cent less. Finest extracted, 9@10c in 5-gallon cans. Beeswax is in good demand, and producers are being paid 32c, cash or trade.

WALTER S. POWDER.

DENVER, Aug. 7.—The new crop of comb honey is coming in freely now, and quality is good. Owing to hot weather the local demand is light. We are selling in a jobbing way at the following figures: No. 1 white, per case of 24 sections, \$3.15; choice, \$3.02; and No. 2, \$2.88. White extracted honey, 9c; light amber, 8c; strained, 6½@7c. We pay 26c per pound in cash and 28c in trade for

clean yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.,
Frank Rauchfuss, Mgr.

SAN FRANCISCO, Aug. 19.—Comb honey is now being offered, and No. 1 fancy 16@17c; No. 2, 13@15½c; darker grades, 10@12c. Water white extracted, 8@9c; amber, 6@7c, and darker 4½@6c per pound. Beeswax from 24@30c, according to quality. New honey, both comb and extracted, are finding a ready sale; the season's supply is 30 days late.

JOHN C. FROHLIGER.

CINCINNATI, Aug. 19.—We are receiving daily many shipments of honey, both comb and extracted. No. 1 comb honey is selling from 14@16c, according to the quality and quantity purchased. White extracted honey is selling at 9c per pound in 60-pound cans; larger lots less. The above are our selling prices, not what we are paying. For nice yellow beeswax, we will pay 30 cents delivered in Cincinnati.

C. H. W. WEBER & CO.

KANSAS CITY, MO., Aug. 20.—With the long drouth broken and cooler weather, the demand for honey, especially comb, is very much improved, and sales are equal to receipts. We quote: No. 1 white comb, 24 section cases at \$3.50; No. 2, \$3.00 to \$3.25; No. 1 amber, \$3.25; No. 2 dark and amber, \$2.50 to \$3.00. White extracted, per pound, 8@8½c. Beeswax, 25@28c.

C. C. CLEMONS PRODUCE COMPANY.

NEW YORK, Aug. 15.—Owing to heavy drouths in New York State, and in fact all the eastern States, the crop of white comb

honey is far below an average, and our market is in a position to handle Western comb honey to good advantage. As a rule, we do not solicit or encourage shipments of comb honey from the West, but for the reason above stated, this year is an exception.

HILDRETH & SEGELKEN.

CINCINNATI, Aug. 18.—The market for comb honey is very good, owing to the lower level of prices, and we are selling fancy comb honey at 15@16½c per pound at our store. Extracted honey is of slower sale than was expected, but this is due to the big crop, and the bee keepers selling so much locally, which bars us temporarily. Nevertheless, this is a good thing, for when their supply is sold they will have created a good demand for this article. We are selling white clover extracted honey in 60-pound cans at 8@10c a pound, while for amber honey in barrels we are getting 5½@7½c a pound. The above prices are according to quality and quantity purchased. For strictly choice bright yellow beeswax we are paying 30c a pound delivered here.

THE FRED W. MUTH CO.

LOS ANGELES, Aug. 15.—Since writing on June 30, quoting light amber honey at 6½c, we have received a good many offerings from the producers, and it is possible that the price named could be shaded an eighth of a cent per pound on firm offers.

HAMILTON & MENDERSON.

CORN

HARVESTER with Binder Attachment cuts and throws in piles on harvester or winrow. Man and horse cuts and shocks equal with a Corn Binder. Sold in every State. Price, \$20.00. W. H. BUXTON, of Johnstown, Ohio, writes: "The Harvester has proven all you claim for it; the Harvester saved me over \$25.00 in labor last year's corn cutting. I cut over 500 shocks; will make 4 bushels corn to a shock." Testimonials and catalog free, showing pictures of harvester. Address.

NEW PROCESS MFG. CO., Salina, Kan

An Active Season is Here!

A carload of perfectly new goods is just on hand from the factory, and another car is expected any day, and the factory has booked us for four cars. This brings up our assortment so that we can now furnish almost anything listed in the catalog at once.

Hives should be ordered at once if they are to be ready for swarms. Frames, and other inside fixtures, too, should be put together now.

If you are wanting any special goods, orders should be made at once. Other cars are coming regularly from the factory, and we can save you considerable in transportation charges by having your goods come with ours in the car.

The mailing of our new catalog was completed some time ago. If you are not on our mailing list send us a postal-card request for this catalog.

If you want to buy in quantities considerably larger than quoted in the catalog, give us a list of your needs and we will quote price accordingly.

If you have never tried Root quality goods, make a beginning this season. You will not be disappointed in results. Our branch is maintained for service in this line and we can give it to your entire satisfaction.

We are sole agents in Ohio for the Roller Tray Incubator and Brooder—the best in the market. Write for our catalog.

C. H. W. WEBER & CO.

2146 Central Avenue.

CINCINNATI,

OHIO.

American Bee Journal

"If goods are wanted quick, send to Pouder."

BEE-SUPPLIES

EQUIPMENT Store room built expressly for the business; large concrete basement with just enough moisture to prevent breakage in sections; no shrinkage in dovetailed corners of supers and hives.

QUALITY Root goods at factory prices. The kind that I have sold for nearly a quarter of a century, and the kind that you can afford to recommend to your neighbors. I might have increased my profits for a short time by handling other goods, but I would not have remained so long in business. Many articles in my catalog can reach you by Parcel Post, and I assume all responsibility in safe delivery of the goods. Catalog free.

WALTER S. POWDER, Indianapolis, Ind.

873 Massachusetts Avenue



COMB FOUNDATION

WITH THE SAME TASTE

WITH THE SAME SMELL

WITH THE SAME FIRMNESS

AS THE COMB THE HONEY-BEE MAKES

How do you Obtain Yours?

THE OLD WAY:—By selling your Beeswax. Reasonably sure but expensive.

THE DITTMER WAY:—By shipping your wax to us and having it made into Comb Foundation and then returned to you.

Write us for further information and samples, also prices and discounts on Bee-Supplies

Gus Dittmer Company, Augusta, Wisconsin

Eastern Bee-Keepers

Furnishing bee-supplies has been our business for 22 years. We are also honey-producers, operating several hundred colonies for honey. We have started many people who have made a success of the business. We still furnish them their supplies. They stick to us. You will if you get acquainted. We advocate only practice articles. Let us mail you our catalog on what you may need.

I. J. STRINGHAM.

105 Park Place, New York City

APIARIES: Glen Cove, L. I.

Rebuilt Remington Typewriters (No. 6)

or Smith Premier Typewriters (No. 2)

Prices, \$30 to \$35. Send \$5.00 down and we will send the machine. **GREAT OPPORTUNITY.** Address,

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